



# Bremer River and Waterway Health Report

July 2020



# Introduction

The **Bremer River and Waterway Health Report** provides an overview of the legislative framework, the key stakeholders and their roles and responsibilities, the health status, and the priority investment actions for waterways in Ipswich. This report responds to the Mayoral Minute presented by Mayor Harding in May 2020 seeking a full report on Council's roles and responsibilities in the management of the Bremer River and Ipswich waterways, and the consideration of future actions and investment priorities.

Supplementing this Report is the renewed **Waterway Health Strategy 2020** and a detailed **Background Report** outlining the city-wide strategic priorities and sub-catchment based actions to improve the health and function of the Bremer River and Ipswich waterways. The Waterway Health Strategy 2020 builds on the best available science and past actions to set the investment priorities for the next 3-5 years. Implementation of the Strategy will support Council's achievement of the Corporate Plan Strategy Priority for *protecting and preserving the natural environment*, and provide a framework for Council to meet the relevant legislative requirements for waterway protection.

## Waterway Context

The challenges and opportunities that are faced by the Bremer River are also relevant to other major waterways and tributaries across Ipswich. Moreover, the Bremer River is a product of the inputs, including sediment, pollutants, and organic material, that are derived from its contributing tributaries and catchments.

The Bremer River is approximately 120 km in length and has a catchment area of around 2030km<sup>2</sup> across two local government boundaries. Approximately one third of the Bremer River catchment lies within the Ipswich LGA. The Bremer River joins the Brisbane River at Barellan Point where the tidal influence of the Brisbane River becomes the dominating factor on the condition and behaviour of the Bremer, extending all the way up to the CBD reach.

The condition and health of the many tributaries and sub-catchments that flow into the Bremer River have a significant influence on its overall health and aesthetics. As such, the actions listed in this report and the Waterway Health Strategy predominantly focus on the mid to lower reaches of the Bremer River and the freshwater tributaries that flow into the Bremer, and the mid to lower Brisbane River.

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# Relevant legislation

Council has an obligation to meet a number of statutory requirements and regional targets for the protection and management of water quality, aquatic ecosystems and riparian vegetation. It also has to fulfil State Government devolved responsibilities through regulatory enforcement on public and private land.

Navigating through the State and Commonwealth Government legislative framework for managing water and waterways is often complex and can lack hierarchical clarity. For the purposes of this report, below is a brief summary of the most relevant legislation and their relevance to Council.

## *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*

The EPBC Act provides a framework for the protection and conservation of nationally significant ecological communities, wetlands and species, including: world heritage properties, national heritage properties and Ramsar wetlands. The Bremer River follows into the Brisbane River and subsequently into Moreton Bay which is a Ramsar listed wetland.

## *Water Act 2000 (Qld)*

The Water Act provides a framework for the planning, allocation and use of surface water and groundwater in Queensland, including regulating major water impoundments (such as dams and weirs) and extraction through pumping for irrigation and other uses. The Water Act provides a system of interrelated plans, licences and permits for the regulation of in-stream (watercourses, lakes and springs) and overland water flow and groundwater.

The Act controls the removal of native vegetation from non-tidal watercourses through Riverine Protection Permits. The Act includes sub-ordinate legislation and plans, including:

- Water Regulation 2002
- Moreton Resource Plan - which incorporates the Bremer River catchment and Warrill Creek
- Resource Operations Plans
- Drought Management Plans
- System Leakage Management Plans

Council is required to develop and implement operational plans that meet requirements of the act such as Water Efficiency Management Plans and Drought Management Plans.

## *Planning Act 2016 (Qld)*

The Planning Act provides the planning framework for ecological sustainable development across Queensland. This includes: planning, development assessment, infrastructure (charging), offences and enforcement, and dispute resolution. Council is required to develop local planning instruments (planning scheme, planning scheme policies, etc). This includes requirements for development to protect the natural environment, waterways and wetlands.

The Planning Regulation covers development involving taking or interfering with water as assessable or self-assessable development. This includes, amongst other things:

- all work in a watercourse, lake or spring that involves taking or interfering with water (e.g. a pump, gravity diversion, stream redirection, weir or dam); and
- all artesian bores anywhere in the State, no matter what their use.

An owner of land adjoining a watercourse, lake or spring may take water for stock or domestic purposes but this is subject to self-assessment under the Planning Act and Water Act and with this

right of trespass comes implied riparian responsibilities around maintenance and up keep of the waterway.

#### *Fisheries Act 1994 (Qld)*

The Fisheries Act provides the State's legislative framework for the regulation of fisheries, fish resources and coastal areas that are important as fisheries habitat and marine plants. The Act provides a range of mechanisms aimed at the sustainable management of fisheries including management plans, quotas, offences, licences and declarations of closed seasons, closed waters and fisheries habitat areas. Council is required to comply with the Fisheries Act for any works that impact on freshwater and marine fish habitats, fish movement or the clearing of marine plants in tidal areas.

#### *Biosecurity Act 2014 (Qld)*

This Act provides biosecurity measures for regulating pests (e.g. riparian weeds and fish), diseases, and some contaminants (e.g. lead on grazing land) that pose a biosecurity threat. It is administered by the Department of Agriculture and Fisheries with some powers and responsibilities devolved to Council.

#### *Environmental Protection Act 1994 (Qld)*

The Environmental Protection Act is a major component of the Queensland environmental legal system. Its objective is environmental protection within the context of ecologically sustainable development. The Act includes sub-ordinate legislation and requirements, including environmental protection policies, environmental values and water quality objectives, and state of the environment reporting. Council is required to develop plans and address compliance to the Act, through regulatory enforcement of environmentally relevant activities (ERA's).

The most relevant environmental protection policy for waterway health is the Environmental Protection (Water and Wetland Biodiversity) Policy 2019. This policy identifies environmental values for waters and wetlands, including all catchments within Ipswich, and provides a framework for making consistent, equitable and informed decisions about waters.

#### *Local Government Act 2009 (Qld)*

The Local Government Act contains powers for local governments to pass local laws, which apply within a local government area. This may include a range of minor environmental issues through to the ability to regulate more serious environmental issues such as vegetation clearing.

#### *Native Title (Queensland) Act 1993 (Qld)*

Past acts attributable to the Queensland Government that may have affected or extinguished native title are declared to be valid by this Act, which was enacted after the recognition of native title by the High Court in 1992. Importantly for environmental law, s17 declares that the State Government owns all natural resources and has the right to use, regulate and control the flow of waters and fishing access rights. Council is required to comply with the Act in recognition of Native Title matters.

#### *Aboriginal Cultural Heritage Act 2003 (Qld)*

The Aboriginal Cultural Heritage Act recognises, protects and conserves Aboriginal cultural heritage values and landscapes in Queensland. Council recognises waterways and wetlands have deeply embedded significant value as part of cultural landscapes and places.

#### *Nature Conservation Act 1992 (Qld)*

The Nature Conservation Act provides a framework for the creation and management of protected areas (such as nature reserves and state parks) and the protection of native flora and fauna (protected wildlife). Council's Nature Conservation Strategy sets the direction for the protection and enhancement of Ipswich's natural areas, and recognises waterways as significant corridors for native fauna and flora across the city. In addition, the Nature Conservation Strategy recognises iconic species and vegetation communities, such as platypus, for protection.

#### *Coastal Protection and Management Act 1995 (Qld)*

This Act provides for the protection, conservation, rehabilitation and management of the coast, coastal zone and its resources. It seeks to restrict the type and amount of development within the Coastal Management Districts. Parts of the Bremer River estuary and the Lower Brisbane River are mapped as a coastal management district. Council meets requirements under the Act through referral of relevant development applications that impact on tidal waterways.

#### *Rivers Improvement Trust Act 1940 (Qld)*

The object of the Rivers Improvement Trust Act is to provide responsible management of river catchment areas through planning for and implementing measures that improve the protection, health and resilience of rivers and their catchments. This is achieved through the establishment of River Improvement Trusts, and areas in which they have powers and functions as a statutory body. Council works closely with the Ipswich Rivers Improvement Trust (IRIT).

Of note, only two (2) River Improvement Trusts exist in SEQ with both covering the entire Bremer River catchment area. The Bremer River is the only catchment in SEQ to be covered in full by 1 or more River Improvement Trusts, being Ipswich RIT and Scenic Rim RIT.

# Roles and Responsibilities

## Ipswich City Council

Council's primary role in waterway health management is to meet community expectations through policy, planning and management actions. Council's responsibilities are guided by Commonwealth and State legislation as well as regional and local policies.

While Council is only one player within the broader context of waterway and catchment management, it is well positioned to lead, advocate and implement for real change at a local level. Council fulfils its role in waterway health management by working across four broad areas:

- Developing and implementing planning documents and management activities to fulfil legislative requirements.
- Supporting regional natural resource management as a stakeholder in regional planning, operational programs and education initiatives.
- Delivering on-ground natural resource management, stormwater improvement and floodplain management activities.
- Supporting local groups and landholders in waterway improvement initiatives.

These activities are done as components of Council's core activities and functions, including:

- **Strategic land use planning and development assessments** – Land use planning and the approval of development assessments are key activities that Council can use to influence waterway health and water quality (stormwater management) outcomes by ensuring that the development of Ipswich is undertaken in a way which embraces the natural environment and aims to mimic the natural water cycle.
- **Regulation of environmental risks** – Council's responsibility to monitor environmental compliance is another key function which can directly protect waterway health, including responding to breaches of erosion and sediment control requirements in new development and council projects.
- **Acquisition, protection and management of publicly owned land** – Council can protect and manage key areas, such as riparian corridors and floodplains, through voluntary acquisition or developer contributed open space. Publicly owned land can then be managed and enhanced as natural areas.
- **Construction and maintenance of public infrastructure** – New public infrastructure planned, designed and delivered by Council (such as parks, roads, bike paths, bridges, drainage infrastructure, and stormwater assets) can be undertaken in a coordinated approach which aims to provide multiple outcomes, including waterway health improvements.

Waterway health management is also achieved, directly or indirectly, through a number of projects and programs between Council and external organisations, landholders and the general community, such as:

- Private landholder support programs (Land for Wildlife, Partnership Agreements)
- Environmental education material, workshops and events
- Support to local and regional natural resource management groups
- Investigating opportunities in market-based mechanisms for on-ground outcomes such as vegetation and water quality offsets



- Sourcing external funding for riparian protection and rehabilitation projects and devolved grants.

## Department of Environment and Science (DES)

DES is responsible for the administration of the *Environmental Protection Act 1994* and the associated Environmental Protection Policies. The Act places a general environmental duty on everyone in Queensland not to harm the environment.

In the workplace, companies must ensure they are operating with 'due diligence', by taking all practical steps towards meeting their environmental responsibilities. This also applies to local and state governments and their agencies.

### *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*

The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 gives finer detail on how the measures under the Environmental Protection Act should be implemented to protect waterways.

It seeks to protect and maintain environmental values in waterways including:

- aquatic ecosystem health
- aquaculture and human consumption of aquatic foods
- agricultural uses (e.g. stock watering and irrigation)
- recreational uses (e.g. swimming, wading, boating, fishing and aesthetic)
- drinking water (raw water supply)
- industrial uses (e.g. power generation and manufacturing, mining and minerals refining/processing)
- cultural and spiritual values.

The Policy also outlines specific Water Quality guidelines/standards for given systems. These Water Quality Objective (WQOs) are based on best-available science and are developed under the processes outlined in the Australian and New Zealand Water Quality Guidelines (ANZECC Guidelines).

WQOs are long-term goals for water quality management. They are measures, levels or narrative statements of particular indicators of water quality (such as salinity or turbidity) that protect the Environmental Values of a system. WQO's have been set for all waterways found within Ipswich LGA.

### *Licensing*

Under the Environmental Protection Act, activities which have the potential to damage the environment are known as environmentally relevant activities (ERAs). Anyone carrying out an ERA must be licensed under the Act. Many industries are required to obtain a licence before they are allowed to discharge to waterways.

Licensing point source discharges is an important part of water quality management. Licences limit the discharges to specific levels, taking into account the waterway uses. Each licence is specific to the discharge and the waterway which will receive the discharge. The quantity, type, frequency and place of discharge is stated on each licence. Operators discharging without a licence will be prosecuted.

### *Enforcement and prosecution*

The Department uses a range of enforcement methods to ensure water pollution problems are corrected and do not recur. Prosecution is usually seen as a last resort. However, some companies and individuals have been prosecuted for offences, leading to substantial fines.

## **Department of Natural Resources Mines and Energy (DNRME)**

DNRME have a guiding and regulatory role in the management of both water as a resource from waterways, dams and groundwater and also in the management of other resource industries and their impact on the environment, including waterways.

Broadly they have within their remit

- Water monitoring (levels, quantities and quality through the Ecological Health Monitoring Program [EHMP] which it funds the regional NRM body to carry out)
- Water licences and permits for industry and other purposes.
- Catchment and resource planning such as the Murray Darling basin plan and Moreton resource plan
- Water access (including bores, metering and water sharing)
- Water and sewerage provider regulation
- Issuance and enforcement of Riverine Protection Permits

## **Department of Agriculture and Fisheries (DAF)**

DAF manages the sustainability and allocation of fisheries and forestry resources, to remain sustainable and productive by:

- monitoring, determining and controlling access and development as needed
- providing education and enforced fishing regulations to promote equitable access to fisheries resources
- maintaining supplies of state owned forest products and quarry materials to industry

DAF are also responsible for the administration of Biosecurity Queensland.

## **Natural Resource Management Bodies – Healthy Land and Water (HLW)**

Healthy Land and Water is an independent organisation established under the Commonwealth's framework for Natural Resource Management bodies.

HLW works in partnership with Traditional Owners, government, private industry, utilities and the community to deliver innovative and science-based solutions to challenges affecting the environment. They undertake activities in research, monitoring, analysis, engagement and project management to restore waterways and landscapes, improve native habitats, manage weeds, protect native species and educate communities on the best ways to improve and protect the environment for future generations.

Healthy Land and Water is also the lead organisation in the development and implementation of the SEQ Natural Resource Management Plan.

## **Council of Mayors SEQ (CoMSEQ)**

CoMSEQ launched the Resilient Rivers Initiative (RRI) in December 2014, with the aim of improving the health of SEQ waterways by delivering a coordinated approach to catchment management. Signatories to the Resilient Rivers Initiative include the Council of Mayors (SEQ), Queensland Government, Seqwater, Healthy Land and Water, Unitywater and Queensland Urban Utilities.

The Resilient Rivers Initiative was founded on the recognition that a coordinated approach to catchment management is vital to ensure future economic, social and environmental health of the region. The initiative aims to improve the health of SEQ waterways by achieving the following goals:

- To promote partnerships with strong leadership to deliver a coordinated approach to catchment management in SEQ.
- To keep soil on our land and out of our waterways.
- To help protect our region's water security so it can support the current and future population of SEQ.
- To improve the climate resilience of our region.

Under the Resilient Rivers Initiative banner Council has been involved in the development and implementation of the Mid Brisbane River and the Lower Brisbane River Catchment Action Plans, and was the lead organisation in the development of the Bremer River Catchment Action Plan (CAP). The CAP's set a range of management actions to achieve the goals of the RRI by all relevant stakeholders.

### **Ipswich Rivers Improvement Trust (IRIT)**

The function of the IRIT is to carry out works designed to improve the flow of water in the rivers and tributaries within the City of Ipswich, and to correct erosion and provide flood mitigation. The Trust is a statutory body and operates in accordance with the powers and responsibilities of the *River Improvement Trust Act 1940*.

The IRIT receives an annual precept payment from Council, which is mandated under the Act, as well as subsidies from DNRME.

### **Seqwater**

Seqwater's primary responsibility is the management and operations of water supply across south east Queensland. Seqwater also has a focus on the protection and management of water supply catchments, and has established a funding program to support landholders within the Mid-Brisbane River catchment. The program supports landholders to manage bank stability and reduce sediment inputs into the river above the Mt Crosby weir, the primary off-take for drinking water supply to 3 million people living in Ipswich and Brisbane.

### **Landcare and Community Groups**

Landcare, bushcare and catchment community groups provide an essential connection between communities, natural assets and landscapes. Ipswich has a number of landcare, bushcare and catchment groups that play a key role in the enhancement of waterway health across Ipswich, undertaking weed control, revegetation and habitat restoration projects.

### **International RiverFoundation (IRF)**

Based in South Brisbane, the International RiverFoundation (IRF) has a national and international focus on supporting river managers to improve the sustainable management of river basins all over the world. In 2010, Ipswich City Council partnered with IRF in the establishment of the Bremer River Fund. The Bremer River Fund has successfully received funding over the past decade to implement a number of on-ground actions across the Ipswich, primarily focussed on the revegetation of Bundamba Creek.

### **Australian Rivers Institute (ARI – Griffith University)**

The Australian Rivers Institute (ARI) is a world leader in research and education on rivers, coasts and catchments. The ARI provides a creative and collaborative environment that fosters the next generation of ecosystem scientists, supports sustainability and promotes conservation of the world's natural resources. The ARI receives funding from the Ipswich Rivers Improvement Trust towards research on weed impacts and native vegetation benefits within riparian corridors in Ipswich. In addition, the ARI are looking to undertake research to monitor the benefits and outcomes of Council's Franklin Vale Initiative which seeks to improve the health and resilience of Franklin Vale Creek.



# Waterway condition and health

The two primary river catchments within the Ipswich Local Government Area are the Bremer River and the Brisbane River (Mid and Lower) catchments.

Currently the Bremer River is considered as the worst performing catchment in SEQ according to the 2017, 2018 and 2019 Healthy Land and Water report card (grade D). This is concluded through the accumulation and interrogation of annualised data which examines a range of parameters including Total Suspended Solids, Fish and Invertebrates numbers, nutrient loads, plus others.

The Mid Brisbane fairs slightly better than the Bremer by regularly receiving a C grade, generally as a result of the upstream section being managed as the drinking water catchment for the Greater Brisbane area.

The key drivers of the poor health in the Bremer River are high Nitrogen, Phosphorous and Turbidity (mainly from Suspended solids/sediments), and the resulting low dissolved oxygen levels. In addition, poor habitat and bankside vegetation found at the monitoring sites contribute towards the low report card grade.

In the early 2000's, significant multi-agency investment was provided to address the water quality issues associated with high nutrient and low oxygen levels. The investment focused on major upgrades of Sewage Treatment Plants (STPs) across South-East Queensland. Within Ipswich, the Goodna and Bundamba STP's received upgrades, and the Tivoli STP was decommissioned. Treatment standards and the associated point source contamination entering waterways were improved over a comparatively short period of time. Since then, the Ecosystem Health Monitoring Program has shown an improvement in the nitrogen levels within Moreton Bay, and a reduction in the frequency of algal blooms.

Studies undertaken within the Bremer River estuary show that the alteration of tidal regime and the strong influences in the lower reaches by the Brisbane River result in a lack of flushing. These influences contribute towards the current health and state of the Bremer River in the lower estuary and CBD reaches. In addition, the Bremer River estuary receives high sediment and nutrient loads from Deebing and Bundamba Creeks, particularly during wet weather events. These tributaries pass through existing suburbs, industrial areas, and major urban developments of Ripley Valley and Deebing Heights, contributing additional sediment and nutrient loads from these areas which become trapped in the lower estuary.

Upstream of the tidal reaches and the Deebing and Bundamba creek confluences, the Bremer River changes substantially, where it is dominated by fresh water, generally flows 'clear' and has reasonable native bankside vegetation. The freshwater reaches of the Bremer River have historically scored better in the EHMP than the lower estuary.

Figure 1 shows a modest trend of improving water quality scores contrasted against the rapid population growth in the City of Ipswich since 2001. While the major pressures and challenges that the river faces are almost entirely anthropogenic in origin (both legacy/historically and presently) the trends in water quality and corresponding marginal improvement in overall EHMP report card grade over the past 10 years is certainly a positive. This should however be caveated with the fact that some of the recent pressures including the current PFAS data provided by the Department of Defence has not been factored as a specific parameter in this assessment. However it is strongly asserted that any impacts that the PFAS has had on the broader health of the waterway through fish

or invertebrate ecology would have been collected and inherent within the results of the monitoring program since its inception.

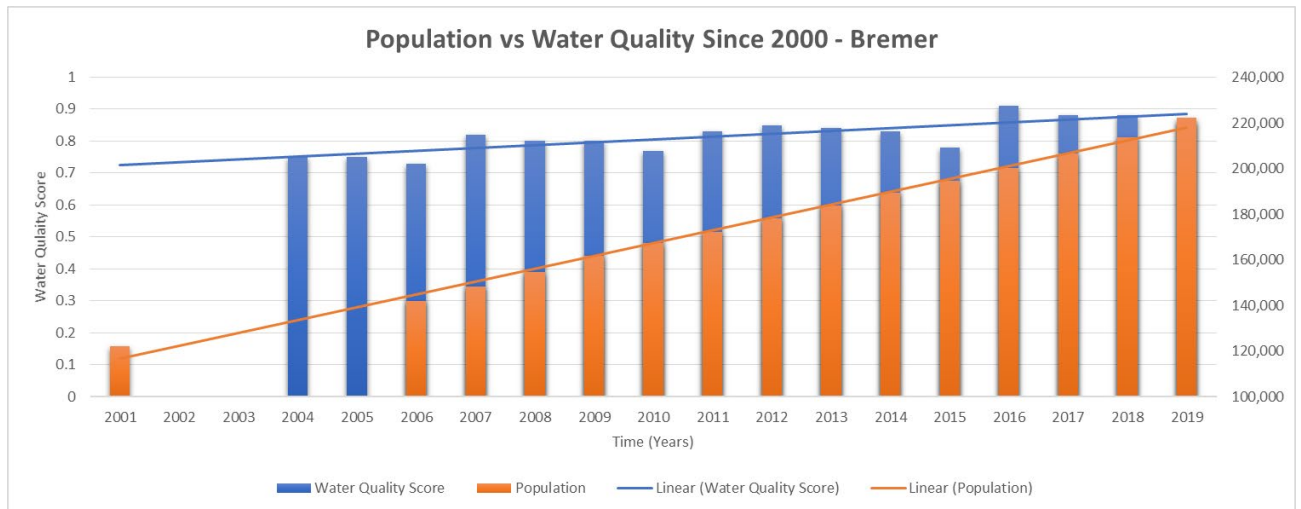


Figure 1 Water Quality compared with Population 2001 -2020

Note: Water quality score is the rating within the EHMP report grade – specifically for water quality parameters including: dissolved oxygen, pH, nutrients, and turbidity – and compared to the ANZECC Guidelines.

Given the historic and current catchment conditions, for example urban drainage, altered hydrological regime and the hydraulic limitation of the tidal reaches in the lower section, it should be kept in mind that the Bremer catchment will not be able to achieve scorecard ratings for water quality and waterway health comparable with less modified catchments such as the Noosa River (which regularly scores A or B in the EHMP report card).

It would be reasonable, through targeted long-term investment, to aspire to achieving a report card grade of C to C+ in the Bremer. Based on an understanding of previous actions, this may take at least 20-30 years for actions now to come to fruition. The previous Waterway Health Strategy lists a vision to improve the health of Ipswich waterways to achieve and maintain a 'D+' rating for the Bremer River estuary and a 'C' rating for the freshwater tributaries, by 2031. To date, this has largely been achieved as evidenced in the EHMP data.

Table 1. Report Card Grades since the commenced of the EHMP program in 2001.

YEAR	CATCHMENT			
	ESTUARY		FRESHWATER	
	BREMER	LOWER BRISBANE	BREMER	MID BRISBANE
2001	F	D-	F	C
2002	F	D-	F	C
2003	F	D-	D-	C
2004	F	D-	D-	B-
2005	F	D-	D-	C+
2006	F	D-	D-	C+
2007	D-	D+	D	B-
2008	F	D+	D-	B
2009	F	D	D+	C+
2010	F	D	D+	C
2011	F	D	C	D-
2012	F	D+	C	F
2013	D-	D+	C-	D-
2014	D-	D+	D+	F
2015	D	C-	*	D
2016	D+	C-		D+
2017	D-	D+		B-
2018	D+	D+		C-
2019	D+	C-		C+

\*Combined with the Bremer Estuary score from 2015

Scale - lowest (F) to highest (A+) Grade

F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
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## **Background and history**

Over the past 200 years the Bremer River has undergone significant change. Prior to European settlement, the Bremer River was most likely an entirely freshwater tributary of the Brisbane River. Consequently, the catchment, sub-catchments and tributaries have undergone significant modification.

Figure 2 shows a timeline of major historical events and changes from the early 1800's to 2010 that are likely to have influenced the health and management of the Bremer River and its catchment.

Some of the major pressures on waterway health were from industry and land use change. Early clearing of the catchment was likely to have driven significant change to hydrology and geomorphology. Comparisons of very early pictures to today show that the town reach of the Bremer River has incised (cut down) significantly since European settlement. This is a result of vegetation removal which decreases bank stability and increases water velocity, combined with interventions such as large scale dredging and the manual removal of natural rock bars, and major flood events. This has left the river bank within the city centre with steep banks that are prone to slippage and scour in flood events.

Further historical impacts on the Bremer River are a result of the river being used as an open industrial drain through the early 1900s, with the discards of animal by-products and waste from the town works being dumped or discharged into the river. Whilst the waterway (quality and ecology) has improved considerably from this time the legacy still persists with high concentrations of metals and toxic chemicals still present in the benthic substrate and prone to resuspension in flood and high flows.



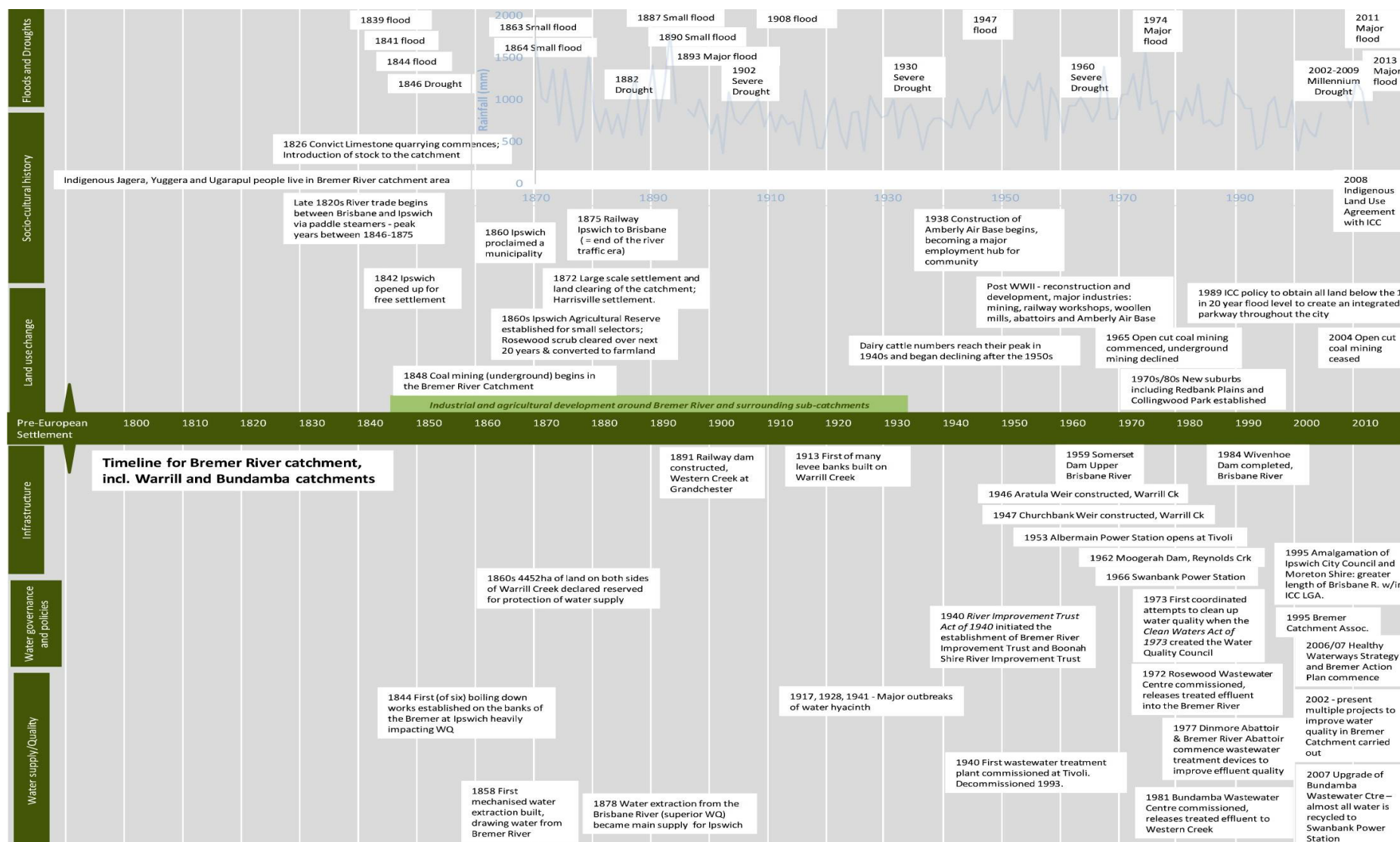


Figure 2: timeline of historical events that may have influenced the Bremer River and its tributaries

# 25 Years of Planning, Strategies and Initiatives

## Past History – An overview from 1995 to 2010

Table 2 Planning, Strategies and Initiatives 1995 – 2010

<b>1995</b>	Commencement of the Bremer River Enhancement Project and formation of the Bremer Catchment Association Inc. (formally Bremer River Catchment Coordinating Committee) – Bremer River Catchment Management Strategy
<b>1996</b>	Funding for the Implementing Catchment Management into the Six Mile, Woogaroo and Goodna Creek Catchments (SWAG)
<b>1996/97</b>	Commencement of the Voluntary Conservation Agreements
<b>1998</b>	Moreton Bay and Catchments Water Management Partnership established (later known as SEQ Healthy Waterways Partnership)
<b>1999</b>	Commencement of the Bremer River Clean-Up Project
<b>2000</b>	National Action Plan for Salinity and Water Quality – federal funding for catchment action initiatives
<b>2001</b>	Commitment to Wastewater Treatment Plan upgrades through the SEQ Regional Water Quality Management Strategy
<b>2001</b>	Initiate partnership in the Ecosystem Health Monitoring Program, and the first annual report card released
<b>2002</b>	Initial funding for the Western Catchments Group
<b>2002</b>	Development of the Urban Stormwater Quality Management Plan
<b>2002</b>	Jamboree Park Frog Ponds Project
<b>2002</b>	RiverClean Event – Six Mile Creek Wildlife Corridor
<b>2004</b>	RiverClean Event – Blue Gum Reserve
<b>2005</b>	RiverClean Event – Jim Finimore Park
<b>2003</b>	NRMSEQ and SEQ Western Catchments Groups established (later known as SEQ Catchments in 2005)
<b>2005</b>	External funding through SEQ Catchments for on-ground projects
<b>2006</b>	RiverHeart Parklands Project
<b>2006/07</b>	Commencement of the Bremer Action Plan in the SEQ Healthy Waterways Strategy
<b>2008/09</b>	Bremer RiverBlitz revegetation project with Greening Australia Qld
<b>2009</b>	SEQ NRM Management Plan finalised

## Highlights – 2009 onwards

### *2009 - Ipswich City Council – Waterway Health Strategy*

This seminal strategy set a vision for Ipswich City Council around the management of waterways. It included specific considerations and recommendations as well as drawing on the best available science at the time to set out city-wide best practise principles that are still relevant today.

### *2010 - Bremer River Forum*

The Bremer River Forum was held on Thursday 15 April 2010 in Ipswich, in partnership with the International WaterCentre, the International RiverFoundation, and the Australian Rivers Institute

(Griffith University). The forum facilitated an expert discussion on the key issues impacting the health of the Bremer River, and the development of a 10 point solutions plan to restore river health. It was attended by industry experts, government representatives, landholders, local businesses and the Mayor of Chattanooga. The result was a collaboration with the International River Foundation and the establishment of the Bremer River Fund, a contribution from local industry and businesses to invest in river recovery. Subsequent to its establishment the fund received no further industry contributions. However, a number of small scale water quality improvement projects were implemented, funded by State and Commonwealth Government grants for plantings and community events and a stabilisation and wetland project on Bundamba Creek.

#### *2012 (on-going) Habitat Connections*

Habitat Connections is a strategic creek rehabilitation program designed to beautify and restore degraded urban waterway corridors throughout Ipswich. This is being achieved through corridor restoration and revegetation.

The program has been designed to provide the community with dedicated locations to take part in tree planting activities that will help improve the water quality of waterways and habitat for local native fauna whilst forging strong community partnerships. Council has selected a number of urban creeks to enhance environmental outcomes of the area and offer the community and corporate groups new nature-based recreation opportunities. These creek include:

- Bundamba Creek
- Ironpot Creek
- Deebing Creek
- Woogaroo Creek

#### *2014-2018 Creek Improvement/Corridor Plans*

A series of creek corridor plans have been developed to address a range of complex issues and to guide the long term management of urban and rural creeks across the City. The Plans provide a common vision and integrated approach to support management across the open space, transport, recreation and stormwater networks that exist within a creek corridor. To date, Creek Corridor Plans have been developed for:

- Black Snake Creek
- Bundamba Creek
- Ironpot Creek
- Deebing Creek

A number of actions have already been undertaken as a result of the Creek Corridor Plans, including new pathways and revegetation along Black Snake Creek, stabilisation of eroding banks on Ironpot Creek, naturalisation of Small Creek, and revegetation of Bundamba Creek.

#### *2015 Ipswich City Council - Integrated Water Strategy*

The 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. As a deliverable of the IWS, the Floodplain Management Strategy was finalised in 2017.

#### *2016 Mid-Brisbane Catchment Action Plan*

Developed as one of the first Catchment Action Plans under the banner of the CoMSEQ Resilient Rivers Initiative, this Plan focuses on a stretch of Brisbane River from below Wivenhoe Dam to Mt Crosby Weir. The catchment is strategically important to SEQ as the main water supply for the region, providing drinking water to three million people in SEQ. The key focus is on keeping soil out of the river and on the land, and working in partnership with rural and peri-urban landholders.

#### *2016 Berrys Weir, Rock Ramp Fishway*

The remediation of Berrys Weir on the Bremer River with the construction of a rock-ramp fishway was undertaken in 2016. Berrys Weir was ranked as the 7<sup>th</sup> highest priority fish barrier in the Greater Brisbane region due to the 2.4m weir that was constructed in the 1960's to impound water for power generation. The fishway is extremely successful, with surveys showing 19 different species of native fish now using the ramp to access upstream freshwater habitats.

#### *2017 (on-going) Small Creek Naturalisation Project*

Small Creek is being transformed from a straight concrete channel to a living waterway. As well as providing natural habitat for wildlife and stormwater quality improvements, Small Creek also provides better path and bikeway connections and the opportunity for the local community to re-engage with urban waterways. The Small Creek Naturalisation Project is funded through Council's stormwater quality offsets scheme which is a developer-funded program, used to improve water quality and waterway health.

#### *2018 (on-going) Franklin Vale Creek Initiative*

In partnership with landholders along Franklin Vale Creek, Council is working to restore and improve the catchment condition through actions such as revegetation, offline watering points and stock exclusion fencing. Council is making a substantial investment in building a legacy of best practice land management where the productivity of the land is maintained for landholders, the community and the environment. Funding is derived from Council's stormwater quality offsets scheme.

#### *2018 Bremer Catchment Action Plan*

Developed by Council on behalf of the SEQ Council of Mayors Resilient Rivers Initiative, this Catchment Action Plan focuses on the resilience of the river system from the perspective of erosion and sedimentation in response to flood events – that is, keeping soil out of the rivers and on the land. The primary focus of the CAP is to address the very high risk of flooding, erosion, sediment and pollutant movement through the catchment and its impact on downstream creeks, the Brisbane River and Moreton Bay.

#### *2019 Brisbane River Strategic Floodplain Management Plan*

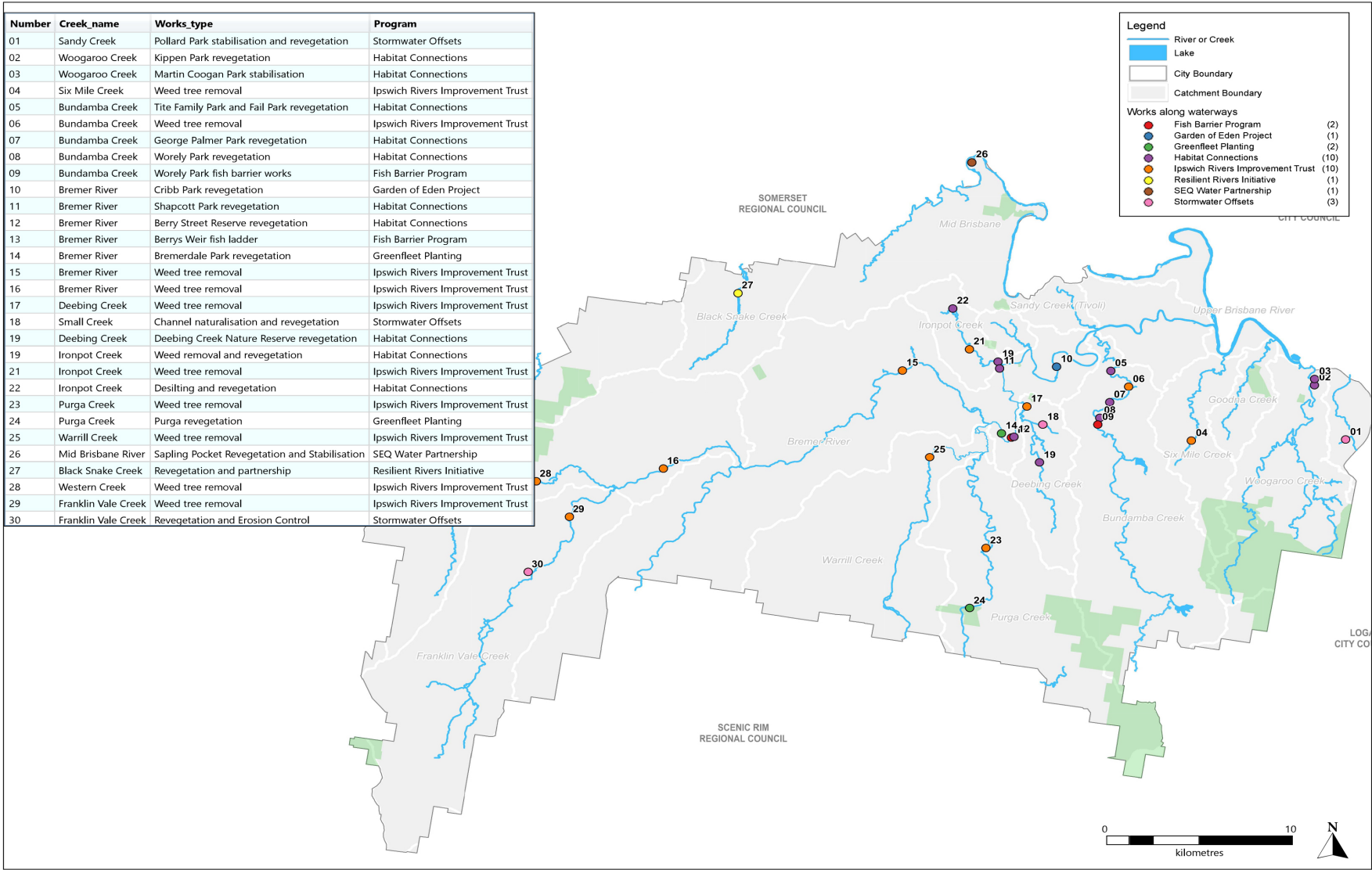
The Brisbane River Strategic Floodplain Management Plan (BRSFMP) provides the framework for a consistent approach to managing flood risk across the Brisbane River floodplain. It is a significant regional plan that considers current and future flood risk, disaster management, mitigation infrastructure, community resilience, building codes and guidelines, land use planning, and landscape management. It was informed by the Brisbane River Catchment Flood Study released in May 2017.

#### *2020 Ipswich Integrated Catchment Plan*

As a required next step following the release of the BRSFMP, Council has commenced the development of Ipswich Integrated Catchment Plan (IICP). The Plan is set to be completed in December 2020, focussing on landscape-scale flood mitigation, floodplain management, land use planning, community resilience and preparedness for future flood events.



Table 3. Current and Recent Projects Maps



# Where to from here?

Contained within the various plans and strategies that have been developed by Council and stakeholders, is a breadth of actions and investment priorities to improve the health of the Bremer River and Ipswich waterways. Many of these actions can be distilled into short, medium and long term goals. A well-used and recognised approach for creek and river recovery is the 'ABC' model, being: **Activate, Beautify and Clean**.

## Activate

"Activate" relates to encouraging people to utilise under-used spaces and engaging with the waterways – seeing them as assets and cherishing them. "Activation" includes elements such as holding organised events (eg: Trees for Mum), and improving open space amenity by providing pathways, seating and active recreational nodes (eg: Small Creek naturalisation project). Activation of a riparian parkland can assist with building stewardship and creating a sense of ownership amongst local residents for their local parks and waterways.

"Activation" has benefits in reducing antisocial behaviour, including vandalism, littering and illegal dumping in parks and creeks through passive and active surveillance.

The Bremer River has ongoing activation through the city centre with Riverheart Parklands, Riverlink precinct, and the connection across the Bradfield Bridge. The completion and connection of the CBD project will open up this connection and should be seen as a unique and exciting opportunity for the City to face and embrace the Bremer River; forming a connection and understanding of the broader catchment.

## Beautify

Beautification and perceived 'cleanliness' of the Bremer River and its associated parklands are key elements to encourage appropriate use of the area, building community trust, and supporting personal and social investment in embracing the river as a cherished asset.

The current situation in regards to the aesthetics of the river as seen from the town centre bridges is a direct disincentive to the general community and tends to attract the less desirable behaviours such as the dumping of trollies. This currently initiates a negative cycle of disengagement and decreased care factor.

A program of localised beautification of the river and its banks within the town reach would support the social and ecological values and encourage positive attitudes to investment across the reset of the waterways and catchments.

## Clean

"Clean" refers to ensuring that the more fundamental waterway health values are addressed to ensure the waterways remain a clean and healthy asset. The social and public investment and social licence to 'clean up the waterways' comes partially as a result from the previous activation and beautification steps.

Similar to "beautification", clean parklands and waterways help improve community perception of the area and encouraging appropriate use of the parklands. A clean waterway has potential to be an active part of the parklands adding new recreational elements to how people use the parklands. The ultimate goal is to invert the negative spiral of social attitudes into a positive, caring, cleaning feedback loop once the river and catchments are seen as a valued asset.

# High Level Investment Priorities

Recovery of the Bremer River and Ipswich waterways requires a dedicated, long-term approach to investment. Traditionally, catchment and waterway health investment has been limited, ad-hoc or focussed on single projects and initiatives through short-term funding or grant programs. The recovery of the Bremer River and waterways requires targeted, sustained investment.

As shown in Figure 1 previously, improvement in waterway health will be incremental and realised over many years if not decades. The key to improving the Bremer River and Ipswich waterways lies in managing and reducing inputs of sediment and pollutants in the upper catchments and tributaries that feed into the Bremer River, as well as the activation and beautification of the town reach to engage the hearts and minds of the community.

The high level investment proposal focusses on a 10 year timeframe, and includes annual costs to be carried forward each year, and project based initiatives that may be delivered as once-off investments. Some actions and projects are yet to be costed due to the high-level informing document yet to be finalised, or are opportunistic.

The proposed projects and annual budgets have been listed under the 5 Strategic Priorities identified in the *Waterway Health Strategy 2020*.

## STRATEGIC PRIORITY 1: Giving waterways and wetlands room to function

ACTION	DETAILS	PROPOSED BUDGET	TOTAL
<b>PROJECTS</b>			
Ipswich Integrated Catchment Plan – implementation of the IICP actions for re-engagement of floodplains to promote flood mitigation and waterway health	Once finalised and adopted, an annual works program and project delivery schedule is to be developed.	To be costed	TBD
Wetland acquisition – voluntary acquisition of priority wetland(s) as part of the Enviroplan Acquisition program	The Enviroplan Acquisition Plan identifies priority areas for acquisition. Implementation of the plan is on an opportunistic basis as priority areas become available for acquisition.	Variable – to be identified in the Enviroplan forward financial model	TBD

## STRATEGIC PRIORITY 2: Promoting waterways and wetlands as engaging and accessible public spaces

ACTION	DETAILS	PROPOSED BUDGET	TOTAL
<b>PROJECTS</b>			
Bremer River bank stabilisation within the town reach – implementation of the North Ipswich Open Space Masterplan for stabilisation of the banks within the town reach	Through the implementation of the North Ipswich Open Space Master Plan, or parts thereof, to stabilise and revegetate the banks of the Bremer River within the town reach.	To be costed	TBD
Bremer River Trail – linking points of interest through signage and online media	Signage and educational resources	\$120,000 (new)	\$120,000

## STRATEGIC PRIORITY 3: Supporting landholders in undertaking works on private properties

ACTION	DETAILS	PROPOSED BUDGET	TOTAL
<b>ANNUAL PROGRAMS</b>			
Voluntary Conservation Partnerships – supporting landholders with the revegetation and restoration of waterways on private land	2 x Program Officer (Natural Environment) (existing budget) Program incentives (existing budget)	\$200,000 (existing) \$240,000 (existing)  Note: The existing program and budget covers all conservation partnerships, including waterway corridors	\$440,000
Healthy Land and Water membership – partnership with the regional NRM body, including the annual Ecosystem Health Monitoring Program, and Bremer River clean-up program	Annual membership Clean Up program Trolley Clean Up	\$76,000 (existing) \$20,000 (existing) \$20,000 (new)	\$116,000
Ipswich Rivers Improvement Trust – annual precept for waterway restoration, including bank stabilisation and woody weed removal	Annual precept	\$150,000 (existing)	\$150,000
<b>TOTALS</b>			
New budget			\$20,000
Existing budget			\$686,000
<b>ANNUAL TOTAL</b>			<b>\$706,000</b>

## STRATEGIC PRIORITY 4: Reducing sediment entering our waterways

ACTION	DETAILS	PROPOSED BUDGET	TOTAL
<b>ANNUAL PROGRAMS</b>			
Erosion and Sediment Control Compliance – education and partnering with development industry to meet legislative requirements for ESC on-site	2 x ESC officers (PRS) Education / Compliance Resources	\$250,000 (new) \$100,000 (new)	\$350,000
Water Sensitive Urban Design – development and implementation of WSUD policy, guidelines and best practice to support development and council projects, including natural channel guidelines, input into LGIP	1 x WSUD officer (IED) Resources	\$120,000 (new) \$75,000 (new)	\$195,000
Stormwater quality offsets – delivery of offset projects funded through the voluntary stormwater quality offsets scheme (developer funds)	1 x Waterway Improvement Officer On-ground projects Monitoring	\$120,000 (existing) \$1,500,000 (existing) \$100,000 (new)	\$1,720,000
<b>PROJECTS</b>			
Gravel road resealing – resealing gravel roads within the priority waterways such as: mid-Brisbane River	Potential partnership and co-funding with Seqwater	To be costed	TBD
<b>TOTALS</b>			
New budget			\$1,620,000
Existing budget			\$645,000
<b>ANNUAL TOTAL</b>			<b>\$2,265,000</b>

## STRATEGIC PRIORITY 5: Enhancing riparian corridors

ACTION	DETAILS	PROPOSED BUDGET	
ANNUAL PROGRAMS			
Riparian and In-stream restoration projects – enhancing the extent and condition of riparian and in-stream habitat	2 x Waterway Health Officers (1 currently budgeted) On-ground projects, including weed control, revegetation, bed and bank stabilisation	\$240,000 (incl. \$120,000 existing) \$500,000 (incl. \$120,000 existing – Habitat Connections)	\$740,000
Riparian and water asset maintenance – skilled team for the maintenance of riparian corridors within linear open space network, and over 200 stormwater quality assets	3 x maintenance staff Maintenance Operational expenses	\$240,000 \$350,000 (\$250,000 existing)	\$590,000
TOTALS			
New budget			\$490,000
Existing budget			\$840,000
ANNUAL TOTAL			\$1,330,000

The proposed investment for annual operational and capital expenditure (excluding one-off projects) is \$4,301,000. This budget is made up of costs that are already contained within Council's operational and capital budgets of \$2,171,000 and new budget of \$2,130,000. The above costs are indicative only, and are provided at a high-level to demonstrate current and proposed investment priorities. Of note, is the proposal for additional resources within the following areas:

<u>Compliance</u> : Erosion and Sediment Control Compliance	2 x officers
<u>Planning</u> : Water Sensitive Urban Design	1 x officer
<u>Maintenance</u> : Stormwater Quality Assets and Natural Channels	3 x officers
<u>Project Management</u> : Waterway Health	1 x officer

The supplementary **Waterway Health Strategy 2020** sets out a more comprehensive list of actions for achieving the city-wide strategic priorities and improving waterway health across the identified sub-catchments. Whilst many of these actions will be delivered through existing Council resources, projects and programs, other actions will require the development of business cases to support their consideration for inclusion in future budgets.



## Appendix 1 – Stakeholders map

