

# Know your creek

## Breakfast-Enoggera Creek



*Dedicated to a better Brisbane*



Lesser wanderer (*Danaus chrysippus*) – RW

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Both cover images – RW



As a river city, our lifestyle revolves around Brisbane's waterways. From our local creeks and wetlands to Brisbane River and Moreton Bay, our waterways also play a vital part in the bigger picture of integrated water cycle management for the city.

This *Know your creek* booklet is one of a series designed to provide local information on the diverse features and roles of Brisbane's waterways and their catchments and increase community awareness and involvement in water issues.

*Know your creek* booklets are available at [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au) or by calling Council on (07) 3403 8888.

### **Know your creek** booklets are also available for the following catchments:

- Bulimba Creek
- Cabbage Tree Creek
- Cubberla and Witton Creeks
- Kedron Brook
- Lota Creek
- Moggill Creek
- Norman Creek
- Nundah/Downfall Creek
- Oxley Creek
- Pullen Pullen Creek
- Tingalpa Creek
- Wolston and Centenary Creeks
- Wynnum Creek

This is a Brisbane City Council initiative. Another way Council is growing a clean and green Brisbane and achieving our vision for the city's future – *Living in Brisbane 2026*.

## Vision for the Breakfast-Enoggera Creek Catchment

The Breakfast-Enoggera Creek catchment will retain its bushland character in the upper catchment, connected through to the lower catchment with an enhanced riparian zone providing improved habitat for fauna. The waterway corridors will be promoted as a recreation resource, while the character of the built environment will be sympathetic to the natural environment. The catchment community will be environmentally aware and engaged in the management of the waterways, being guided by the clear goals developed for the catchment.

*Developed at a community workshop in 2004*



Ithaca Creek, Bardon RW

## Welcome to Breakfast-Enoggera Creek Catchment

**A catchment is an area of land surrounded by natural features such as hills, from which all water flows to a common low point, such as a creek, lake, river or bay.** The Breakfast-Enoggera Creek catchment covers 89.2km<sup>2</sup> on the north side of Brisbane. Enoggera Creek rises in the forests of the D'Aguilar Range and runs in an easterly direction for around 39km to where it meets the Brisbane River at Newstead as Breakfast Creek. Enoggera Creek becomes Breakfast Creek at Hudson Road, Albion.

The D'Aguilar National Park protects the creek's upper reaches and covers approximately 30 per cent of the catchment. The middle reaches are mainly urbanised, with the lower reaches being a mix of urban and industrial uses. The catchment includes all or part of

the suburbs of Enoggera Reservoir, Mt Coot-tha, The Gap, Ashgrove, Bardon, Red Hill, Enoggera, Alderley, Newmarket, Paddington, Wilston, Windsor, Kelvin Grove, Herston, Spring Hill, Fortitude Valley, Albion, Lutwyche, Clayfield, Bowen Hills and Newstead.

Enoggera Creek's main tributaries are Fish Creek and Ithaca Creek. Fish Creek begins in Wittonga Park at The Gap and flows through parkland and behind private properties to where it joins Enoggera Creek at Walton Bridge Reserve. East and West Ithaca Creeks originate on the forested slopes of Mt Coot-tha before joining at Carwoola Street, Bardon to form Ithaca Creek. Ithaca Creek runs for approximately seven kilometres through Bardon, Ashgrove and Red Hill before merging with Enoggera Creek near Praed Street, Red Hill.



Native guava (*Rhodomyrtus psidioides*) RW

### Get close to your creeks

In urban areas our creeks provide a range of services – habitat and refuge for wildlife, opportunities for recreation, pathways for floodwaters and protecting the water quality and health of downstream creeks, the Brisbane River and Moreton Bay. In many areas Council has kept or acquired the land beside our waterways to help better provide these services and benefit the people of Brisbane. As a result most of the city's creeks have areas of adjoining parklands where you can get close to and enjoy the wonder of our waterways. These parks often have great facilities such as picnic areas, cycling and walking tracks, sports fields and children's play areas.

Parks along Breakfast, Enoggera, Fish and Ithaca Creeks include:

- **Mt Coot-tha Reserve** - access via Sir Samuel Griffiths Drive, Mount Coot-tha. East and West Ithaca Creeks begin on the slopes of the Mount Coot-tha Reserve – Brisbane’s largest natural area. Picnic at Simpson’s Falls or J.C. Slaughter Falls or follow one of the many walking tracks throughout the reserve, some leading up to the summit of Mt Coot-tha.
- **Walton Bridge Reserve** – access via Glenaffric Street, Jevons Street and Waterworks Road, The Gap. Walton Bridge is a popular recreation spot with a history. Located around the junction of Fish and Enoggera creeks, it has been a meeting place for the local Indigenous people and a rest area for bullock teams travelling west. Now an excellent family park, featuring playgrounds, barbecues, a skate park and walking trails along the creek.
- **Banks Street Reserve** – access via Banks Street, View Street and Weatherhead Avenue, Alderley and Quandong Street, Ashgrove. Formerly a market garden, Banks Street Reserve consists of 37ha of bushland and open space with a number of walking trails. Council and the community have been active in revegetating the creekside areas of the reserve, which now support stands of rainforest that gave the area its previous name of ‘Three Mile Scrub’.
- **Woolcock Park** – access via Hawthorne Terrace, Red Hill. Another great family park on the banks of Ithaca Creek.

Make use of the playground and barbecues or follow the bike path in either direction to see the extensive creek restoration work done by Council and the local community.

- **Bowman Park** – access via Simpsons Road, David Avenue or Bowman Parade, Bardon. Bowman Park is a great place to get close to Ithaca Creek and look for frogs, with at least eight species known to use the area. The Queensland Frog Society, with the support of Council, has created several frog habitats throughout the park, including turning a large section of concrete drain along Bowman Parade back into a natural creek.
- **Downey Park** - access via Noble Street, Green Terrace, or Downey Street, Windsor. Once a mangrove-lined loop of Enoggera Creek, Downey Park now provides extensive open space for sports fields and recreation. The Enoggera Creek Bikeway follows the creek channel, with numerous small and large play grounds dotted along the track between Kelvin Grove Road and Lutwyche Road.



Walton Bridge Reserve, The Gap – RW

## Integrated water cycle management

To better understand the many issues surrounding Breakfast-Enoggera Creek and its tributaries and the diverse roles they play in our landscape, we need to consider how they fit into the bigger picture of integrated water cycle management.

Integrated water cycle management is one of the key principles Council is using to achieve our WaterSmart vision, goals and strategies. It means considering the way we deal with water in the context of the whole water cycle – not just getting it out of a tap or sending it down the drain. It recognises that our water services – including water supply, wastewater treatment and stormwater management – are all interrelated and strongly linked to our waterways and catchments. For example, poor land management and

planning in our water supply catchments causes poor water quality in our water supply dams and higher water treatments costs. It also reduces the health of our rivers and the bay and reduces waterfront amenity.

Planning for integrated water cycle management provides us with an appreciation of all available water resources in our city. By making optimal and multiple use of water from all stages of the cycle, we can continue to support our subtropical lifestyle. Our water resources must be managed holistically and in a way that delivers social, ecological and economic sustainability.

Council believes that the concept of integrated water cycle management is essential for providing a sustainable future for Brisbane and the wider region.



Enoggera Creek at Yoorala Street, The Gap – RW

# Water, water everywhere...

Water is part of our everyday lives. We drink it, wash with it, swim in it or just enjoy looking at it. It sustains our native wildlife and natural areas. It can water our gardens, fill our dams or flood our homes.

When you can turn on a tap and get as much water as you like, it's easy to forget water is actually a limited resource. There's no such thing as 'new' water. The water we have is constantly being renewed in a process known as the 'water cycle'.

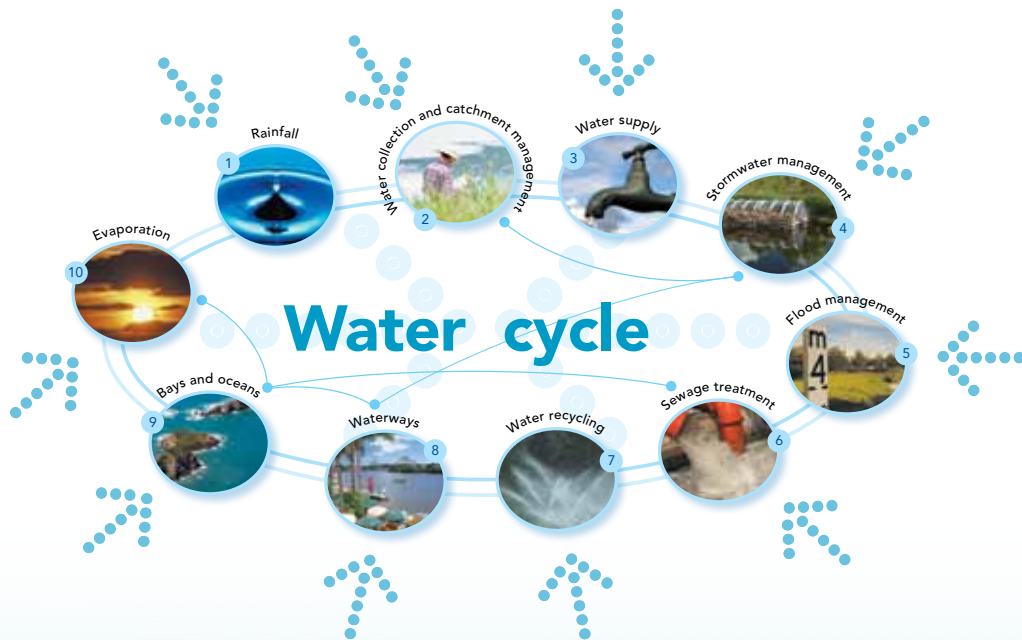
## What is the water cycle?

The water cycle is perhaps the largest natural process on the planet. Powered by the sun's energy, water evaporates, moves on the wind, condenses and falls. Rain falls

on the landscape, landing on forests, farms and cities. Some water evaporates back into the air, some runs off directly into our waterways and the rest soaks into the soil for use by growing plants, which breathe it back into the atmosphere by transpiration.

Much of the water the plants do not use slowly moves deeper into the soil, feeding creeks and underground water systems, which eventually reach our rivers, lakes and the ocean, for the cycle to start all over again.

We might borrow some water along the way for drinking, washing our cars and flushing our toilets but it always finds its way back into the water cycle.



The water cycle for Brisbane and South East Queensland



Enoggera Creek at Yoorala Street, The Gap RW

## Know Your Creek

**The health, flow and shape of a waterway is dependent on the past and present management of the land in its catchment.**

As rain falls in a catchment, water flowing over the landscape can pick up and carry other materials with it on its way to the local waterway.

In an undeveloped catchment, soil and vegetation absorb much of the water that falls onto the landscape. Ground covering plants slow the flow of water and minimise erosion by binding the soil. Rocks and meanders in the waterway system also slow the flow of water as it makes its way down the creek. Plants, animals and bacteria combine in a natural process to produce clean water and a healthy waterway.

The clearing of catchment vegetation for agriculture or urban development can increase the volume and speed at which rainwater flows to waterways. This water can carry with it soil and organic materials as well as chemicals and fertilisers from gardens or paddocks, oil and litter from roads and footpaths and seeds from introduced plant species. Soil and

sediments carried to the waterways can silt up waterholes. Increased nutrients from fertilisers and organic matter can cause algal blooms. Introduced weeds can invade our creeks and smother native vegetation.

Urban development also greatly increases the area of hard surfaces in the catchment, such as roofs, roads and other paved areas. This means less rainwater is able to soak into the soil, and runs off into our stormwater system. Our stormwater system generally pipes this water directly to the local creek or waterway, greatly increasing the volume of water the creek has to carry. In heavy rains, such as Brisbane's summer storms, water may flow to the creek faster than it can be carried away, causing flooding of surrounding areas. The increased amount and velocity of the water in these flood events may also cause erosion of the creek banks, washing soil downstream and damaging creek-side infrastructure like fences and bike paths.

In the past, the flooding potential of some local creeks has not been fully understood, and development has occurred in flood prone areas. To alleviate the affects of

flooding in these areas, Council has dramatically altered the course of some creeks, removing bends, widening and straightening channels or lining them with concrete to allow increased levels of flow. This has usually resulted in a loss of many of the natural features of the creek and a decrease in its water quality. Flood mitigation in the catchment has been mainly limited to Breakfast Creek and the lower reaches of Enoggera Creek, which were straightened and dredged following floods in 1931.

As Brisbane continues to grow and areas are redeveloped, the need for good management of our waterways is highlighted. Our creeks and their corridors provide opportunities for recreation, pathways for floodwaters, habitat for wildlife and protect the quality of the water in Moreton Bay. The challenge for the future is to achieve a successful balance between these varied, and sometimes competing, activities and expectations.

## History of Breakfast-Enoggera Creek

### The Aboriginal landscape

The Yugara language was used in Brisbane and the Ipswich area. At least three distinct groups are associated with this language: the Jagera, Turrbal and Ugarapul.

The Brisbane area was inhabited by two groups, the Jagera and the Turrbal. Exactly where the territorial boundaries lay between the two groups is now unknown. However the Jagera tended to occupy the areas south of the Brisbane River, while the Turrbal, also known as the 'Duke of York's clan', mainly lived north of the river.

The name Enoggera is derived from a Turrbal word variously written in English as 'Yawagar' or 'Yowoggera'. Meaning 'corroboree place', the name referred to a site near the Creek's junction with the Brisbane River, in the area now known as Newstead. The area around the RNA Show grounds, the Royal Brisbane Hospital and Victoria Park golf course was known to the early European settlers as 'Yorks Hollow', as the Turrbal tribe had a campsite in the area. Large groups of up to 800 people reportedly gathered there and "fished, hunted, camped and corroboreed". Another Indigenous site is known from around Bancroft Park at Newmarket.

The Breakfast-Enoggera Creek catchment, with its rainforests, eucalypt forests and connection to the Brisbane River, would have provided a source of freshwater and food for the local Aboriginal people. The rainforests yielded yams, black beans and wild figs, all of which still grow along the creeks today. Mount Coot-tha, at the head of Ithaca Creek, takes its name from 'kuta', the Yugara word for honey.

### The European landscape

Breakfast Creek was named by John Oxley in 1824, after his party camped at the mouth of the creek on their way up the Brisbane River.

The Breakfast-Enoggera Creek catchment figures prominently in Brisbane's early European history. Four years after the penal convict settlement of Brisbane was opened to free settlement in 1842, Newstead House, Brisbane's oldest surviving residence, was built at the mouth of Breakfast Creek. The surrounding area was farmed and the good soil and abundant water provided quality fruit and vegetables.

The first sale of land at Ashgrove occurred at public auction in 1856. Ashgrove originally developed as a farming area that included the estates of St John's Wood, Glenlyon and Grove Estate, which was believed to have given Ashgrove its name. The first school in the area opened in 1877. The first post office opened in the same year. Closer settlement occurred when Glenlyon Estate and Grove Estate were subdivided into smaller blocks around 1915.

The Gap was first settled in 1859 by farmers attracted by water in Enoggera Creek. It consisted mainly of farming land. The quality of the water was also attractive to the newly-formed Brisbane Council, which commissioned the building of a dam on Enoggera Creek in 1864. Completed in 1866, the Enoggera reservoir is the oldest major dam in Queensland and one of the earliest large dams to be built in Australia.

Mount Coot-tha, headwaters of Ithaca Creek, was set aside as a timber reserve for the railways in 1865. Known as 'One Tree Hill' because of a massive eucalypt on the ridgeline, the area was proclaimed a public park in 1874. One Tree Hill became known as Mt Coot-tha in 1883.

Gold was mined in a number of places in the catchment, although with little success. Sites on Mount Coot-tha were worked from 1893 until the 1950s. The Perseverance Mine in the upper reaches of Enoggera Creek was worked periodically from 1883 to 1932. Other sites on Enoggera Creek, close to where the creek now enters the reservoir, were mined mainly in the 1930s.

A number of Brisbane landmarks can be found in the catchment. The Brisbane Hospital, built at a site of the current Royal Brisbane Women's Hospital, treated its first patients in 1867. The nearby RNA Showgrounds site was selected in 1876 and held an 'Intercolonial Exhibition' that same year. At that time a creek ran through the centre of the present main arena. Other well-known buildings in the catchment include the Breakfast Creek Hotel, built in 1889 and the Normanby Hotel, built in 1890.

Following floods in 1931, the reaches of Enoggera Creek below Kelvin Grove Road were extensively modified and straightened to improve flood flows. In 1944 *The Courier Mail* reported that the American Army was preparing to dump hundreds of "jeeps, trucks and other motor vehicles" into a section of creek cut off by the earlier diversion works. This "evil smelling horseshoe shaped section of mangrove swamp" was probably in the area now known as 'Downey Park'.

The 1960s saw more Brisbane icons built in the catchment, with the construction of television towers on Mount Coot-tha and the development of Ballymore Stadium on the banks of Enoggera Creek at Herston.

## Biodiversity

Biodiversity is the variety of life. It includes the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

Brisbane is recognised as the most biologically diverse capital city in Australia. Within the city boundaries there are 63 vegetation communities which support 2500 species of native plants, 550 species of vertebrate animals and countless thousands of invertebrates.

The major threats to the city's biodiversity are loss of habitat for native plants and animals, as well as the fragmentation and simplification of remaining habitat areas. Since European settlement, about 69 per cent of Brisbane's original woody vegetation has been cleared. The remaining areas of bushland are mostly small – 80 per cent are less than 20 hectares – and not well connected to each other.

Brisbane is also part of one of the fastest growing urban regions in Australia, which puts enormous pressure on our natural assets. The challenges for Council and the community are to protect and restore the city's natural assets while accommodating urban growth.

### Ecosystems

The billions of species on our planet, including humans, interact with one another in many ways. These interactions among and between species are what define ecosystems. Ecosystems in turn provide many 'services' from which



Clerodendrum leaf beetle (*Phyllocharis cyanicornis*) – RW

humans benefit. Ecosystem services are the transformation of a set of natural assets (soil, plants and animals, air and water) into things that we value. For example, when fungi, worms and bacteria transform the raw 'ingredients' of sunlight, carbon and nitrogen into fertile soil this transformation is an ecosystem service. However, if we allow natural assets to decline, so do the benefits. Conversely, if we look after and maintain our natural assets, we will benefit from greater returns.

### Fauna

Prior to European settlement, Enoggera Creek would have abounded in wildlife. However clearing of native vegetation, first for agriculture and later urban development, reduced and fragmented the area of habitat available for native animals. Development also introduced non-native plants and animals to the area. Weeds competed with or replaced some of the native flora, reducing the food sources for some wildlife. Domestic and feral animals also competed with, or preyed upon, the native fauna. Other human impacts such as hunting and later, pollution and cars took their toll on the populations of local wildlife.

Despite this, many native animals can still be found in the catchment today, with around 450 species of native insects, amphibians, reptiles, birds and mammals recorded within the catchment. The majority of these are found within the forested hills of the D'Aguilar National Park, which protects the upper reaches of the creek and includes approximately 30 per cent of the total catchment area. Smaller areas of remnant vegetation and the rehabilitation work being done by Council, landholders and the community provides opportunities for native fauna to live and move throughout the catchment.



Red-necked wallaby (*Macropus rufogriseus*) – RW

### Mammals

The protected areas of the upper catchment of Enoggera Creek catchment support a diversity of native mammal species not generally found in urban areas, with around 30 species recorded. However, the close proximity of these areas to housing and remnant vegetation along waterways has allowed some species to extend their ranges into the suburbs.

One notable species is the platypus (*Ornithorhynchus anatinus*). Though seldom seen, platypus have been reported in Enoggera Creek from The Gap to Newmarket. This iconic animal has also been adopted as a mascot by the community catchment group, Save Our Waterways Now (SOWN).

Several species of gliders have been recorded in the Enoggera Creek catchment: the greater glider (*Petauroides volans*), squirrel glider (*Petaurus norfolcensis*), sugar glider (*Petaurus breviceps*) and feathertail glider (*Acrobates pygmaeus*). The mix of rainforest gullies and open forest in the upper catchment also provides shelter and food for a number of species of macropod, including the eastern grey kangaroo (*Macropus giganteus*), whiptail wallaby (*Macropus parryi*), red-necked wallaby (*Macropus rufogriseus*) and swamp wallaby (*Wallabia bicolor*).

Other native mammals recorded from the Breakfast-Enoggera Creek catchment include:

• dingo	<i>Canis lupus dingo</i>
• Gould's wattled bat	<i>Chalinolobus gouldii</i>
• northern brown bandicoot	<i>Isoodon macroourus</i>
• fawn-footed melomys	<i>Melomys cervinipes</i>
• long-nosed bandicoot	<i>Perameles nasuta</i>
• common planigale	<i>Planigale maculata</i>
• common ringtail possum	<i>Pseudocheirus peregrinus</i>
• eastern horseshoe bat	<i>Rhinolophus megaphyllus</i>
• short-beaked echidna	<i>Tachyglossus aculeatus</i>
• mountain brushtail possum	<i>Trichosurus caninus</i>

## Birds

The diverse habitats in the Enoggera Creek catchment, ranging from mountain rainforests to tidal mangroves, provide food and shelter for many types of birds. Over 150 different species birds have been recorded. Some are considered rare, such as the grey goshawk (*Accipiter novaehollandiae*) or Lewin's rail (*Rallus pectorails*). Some species are seen in the catchments seasonally, including winter visitors such as pacific baza (*Aviceda subcristata*) and the endangered swift parrot (*Lathamus discolor*), and summer migrants the channel-billed cuckoo (*Scythrops novaehollandiae*) and common koel (*Eudynamys scolopacea*).



Pacific black duck (*Anas superciliosa*) RW

Resident species in the upper catchment include some not easily found elsewhere in Brisbane, such as the rose-crowned fruit dove (*Ptilinopus regina*) and regent bowerbird (*Sericulus chrysocephalus*).

Other resident bird species include:

• Australian brush turkey	<i>Alectura lathami</i>
• king parrot	<i>Alisterus scularis</i>
• pacific black duck	<i>Anas superciliosa</i>
• bush stone curlew	<i>Burhinus grallarius</i>
• pheasant coucal	<i>Centropus phasianinus</i>
• rainbow bee-eater	<i>Merops ornatus</i>
• powerful owl	<i>Ninox strenua</i>
• pale-headed rosella	<i>Platycerus adscitus</i>
• eastern whipbird	<i>Psophodes olivaceus</i>
• forest kingfisher	<i>Todiramphus macleayii</i>

## Reptiles and Amphibians

Reptile species in the catchment are extremely diverse. Eastern water dragons (*Physignathus lesueurii*) are common along the waterways and are often seen sunning on bike paths or perched on branches over-hanging the streams. Other reptiles found in the catchment include:

• copper-tailed skink	<i>Ctenotus taeniolatus</i>
• pink-tongued lizard	<i>Cyclodomorphus gerrardii</i>
• saw-shelled turtle	<i>Elseya latisternum</i>
• Brisbane short-necked turtle	<i>Emydura macquarii signata</i>
• Burton's legless lizard	<i>Lialis burtonis</i>
• carpet python	<i>Morelia spilota</i>
• red-bellied black snake	<i>Pseudechis porphyriacus</i>
• robust velvet gecko	<i>Oedura robusta</i>
• goanna	<i>Varanus varius</i>



Eastern water dragon (*Physignathus lesueurii*) - MC



Numerous species of frogs can be found in the creeks and wetlands of the catchment including:

• tusked frog	<i>Adelotus brevis</i>
• clicking froglet	<i>Crinia signifera</i>
• striped marshfrog	<i>Limnodynastes peronii</i>
• ornate burrowing frog	<i>Limnodynastes ornatus</i>
• green treefrog	<i>Litoria caerulea</i>
• eastern sedgefrog	<i>Litoria fallax</i>
• graceful treefrog	<i>Litoria gracilentata</i>
• stony-creek frog	<i>Litoria lesueri</i>
• striped rocket frog	<i>Litoria nasuta</i>
• great barred frog	<i>Mixophyes fasciolatus</i>



Stony-creek frog (*Litoria lesueri*) - MC



Eastern sedgefrog (*Litoria fallax*) - RW

## Fish

Despite the urbanisation of the middle and lower catchment, many species of native fish can still be found in the waterways of Breakfast-Enoggera Creek. The gravel nests of eel-tailed catfish (*Tandanus tandanus*) can be seen in slow-flowing pools in the creeks' freshwater reaches. Fish Creek was named for the large number and types of fish found there. It still supports good numbers of native fish, including crimson-spotted rainbow fish (*Melanotaenia duboulayi*). Ithaca Creek is home to a small population of the rare soft-spined sunfish (*Rhadinocentrus ornatus*). The Queensland lungfish (*Neoceratodus forsteri*) was introduced into Enoggera Reservoir in the early 1900s and a breeding population is now present.

Other freshwater fish in the catchment include:

• Agassiz's glassfish	<i>Ambassis agassizii</i>
• speckled hardyhead	<i>Craterocephalus stercusmuscarum fulvus</i>
• empire gudgeon	<i>Hypseleotris compressa</i>
• firetail gudgeon	<i>Hypseleotris galii</i>
• purple spotted gudgeon	<i>Mogurnda adspersa</i>
• pacific blue-eye	<i>Psuedomugil signifer</i>

Exotic fish species such as mosquito fish (*Gambusia holbrooki*), swordtails (*Xiphophorus helleri*), guppies (*Poecilia reticulata*) and platys (*Xiphophorus maculatus*) are also present in Breakfast-Enoggera Creek and its tributaries. These introduced species now dominate the freshwater reaches of many of the city's creeks.

## Flora

The Breakfast-Enoggera Creek catchment is home to over 1500 described plant species, more than the whole of England. Vegetation communities range from patches of sub-subtropical rainforest in the upper catchment to mangroves in the tidal reaches of Breakfast and lower Enoggera Creek. The basic vegetation type is disturbed dry rainforest merging with dry sclerophyll forest on the higher slopes and rain shadows. Along the creeklines, the dry rainforest merges with patches of riparian and sub-tropical rainforest. These corridors extend the ecosystems of natural areas into our suburbs.

Dry rainforest was once the most extensive rainforest in the South East Queensland region, growing in areas with poorer soils and lower rainfall than sub-tropical rainforest. It features large species such as hoop pine (*Araucaria cunninghamii*) and Crow's ash (*Flindersia australis*) emerging above the tree canopy. Large vines and a prickly shrub layer are common.

Most areas of this forest type in the middle and lower catchment have been cleared for development however some small patches remain along the creeks. The area around Newmarket and Ashgrove was once known as 'Three Mile Scrub' due to the thick rainforest around Enoggera and Ithaca Creek.



Brisbane wattle

Other dry rainforest species include:

• lilly pilly	<i>Acmena smithii</i>
• hairy alectryon	<i>Alectryon tomentosus</i>
• rough leaved elm	<i>Aphananthe philippinensis</i>
• blood vine	<i>Austrosteenisia blackii</i>
• grey myrtle	<i>Backhousia myrtifolia</i>
• blackthorn	<i>Bursaria spinosa</i>
• lawyer vine	<i>Calamus muelleri</i>
• currant bush	<i>Carissa ovata</i>
• three veined laurel	<i>Cryptocarya triplinervis</i>
• scaly ebony	<i>Diospyros geminata</i>
• hard quandong	<i>Elaeocarpus obovatus</i>
• bolwarra	<i>Eupomatia laurina</i>
• foambark tree	<i>Jagera pseudorhus</i>
• red kamala	<i>Mallotus philippensis</i>
• monkey rope vine	<i>Parsonia straminea</i>
• peanut tree	<i>Sterculia quadrifida</i>
• banana bush	<i>Tabernaemontana pandacaqui</i>

The dry sclerophyll or eucalypt forests usually occur on the dry slopes of the catchment, with notable remnants at Mount Coot-tha and the Enoggera Military Camp. Common eucalypt species in the catchment include forest red gum (*Eucalyptus tereticornis*), grey gum (*Eucalyptus propinqua*), spotted gum (*Corymbia citriodora*) and grey ironbark (*Eucalyptus siderophloia*). Other species found in the open forests and woodlands include:

• hickory wattle	<i>Acacia disparrima</i>
• sickle wattle	<i>Acacia falcata</i>
• Brisbane wattle	<i>Acacia fimbriata</i>
• green wattle	<i>Acacia irrorata</i>
• chain fruit	<i>Alyxia ruscifolia</i>
• red apple	<i>Angophora subvelutina</i>
• Moreton Bay ash	<i>Corymbia tessellaris</i>
• broad-leaved white mahogany	<i>Eucalyptus carnea</i>
• tallowwood	<i>Eucalyptus microcorys</i>
• pointed-leaf hovea	<i>Hovea acutifolia</i>
• Australian indigo	<i>Indigofera australis</i>
• brush box	<i>Lophostemon confertus</i>
• swamp box	<i>Lophostemon suaveolens</i>
• Queensland nut	<i>Macadamia integrifolia</i>
• quinine bush	<i>Petalostigma sp.</i>
• kangaroo grasses	<i>Themeda triandra</i>

Riparian plants are those species that grow adjacent to the waterway and are not usually found very far from water. Riparian rainforest occurs along waterways in the catchment, with some excellent examples through The Gap and Ashgrove. The riparian forests contain many of the same species found in rainforest, but with a lower diversity of plant species and life-forms and a small number of riparian species usually dominate.

Riparian species in the catchment include:

• rough maidenhair fern	<i>Adiantum hispidulum</i>
• bangalow palm	<i>Archontophoenix cunninghamiana</i>
• weeping red bottlebrush	<i>Callistemon viminalis</i>
• river oak	<i>Casuariana cunninghamiana</i>
• brown myrtle	<i>Choricarpia leptopetala</i>
• blue flax lily	<i>Dianella caerulea</i>
• sandpaper fig	<i>Ficus coronata</i>
• cheese tree	<i>Glochidion ferdinandi</i>
• silky oak	<i>Grevillea robusta</i>
• common rush	<i>Juncus usitatus</i>
• green matrush	<i>Lomandra hystrix</i>
• lemon-scented matrush	<i>Lomandra longifolia</i>
• Brisbane lily	<i>Proiphys cunninghamii</i>
• weeping myrtle	<i>Waterhousea floribunda</i>

No major bushland remnants remain in the lower, tidal reaches of the catchment. However the creek channel is lined with mangroves, which provide movement corridors from some bird species and nursery areas for fish and other marine life. Common species found in these areas include:

• grey mangrove	<i>Avicennia marina</i>
• river mangrove	<i>Aegiceras corniculatum</i>
• swamp lily	<i>Crinum pedunculatum</i>

Visit [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au) and [www.sown.com.au](http://www.sown.com.au) for advice on growing native plants and a list of local species.

## Weeds

Environmental weeds are plants that invade bushland and waterways. They degrade the aesthetic, recreational and ecological values of our catchments.

- Weed trees don't form hollows for nesting like native trees do.
- Toxic seeds and leaves can poison native animals, birds and people living near or visiting the creek.
- Weed vines and groundcovers don't bind the soil of creek banks as well as native plants, resulting in greater erosion and sedimentation of the water channel.
- Weeds destroy the amenity of our waterway corridors.

### How weeds get into our creeks

Weeds are the first plants to move into any newly disturbed ground. The removal of canopy trees from our catchments, firstly for grazing and production and most recently for development, provided sunlight and bare ground for the establishment of a large number of weed species. These weeds escape from neighbouring backyards or are dumped by residents in bushland and creeks. Weeds also tend to grow in creek beds where silt and sediment accumulate, for example, near crossings and bridges.

### How Council is managing weeds in creeks

Brisbane City Council and the community are working together to control and gradually remove weeds as the first step to reclaiming a natural plant and animal environment. The Wipe Out Weeds program provides additional funding for weed management at priority sites and weed awareness for local residents.

Weed control is focused along waterways and at crossings and bridges, known as 'control points'. Council activities ensure that stormwater is unimpeded, flowing to the creek and towards Moreton Bay with minimal restrictions to reduce the risk of flooding. These 'control points' are cleaned out on an as-needs basis every one to five years.



Climbing asparagus fern (*Asparagus africanus*)

Continued vegetation management, including staged eradication of weed infestations, depends on an ongoing partnership approach between residents and Council to achieve success. Habitat Brisbane and Catchment Management Groups are active across the city.

Council's priorities for the management of weeds include:

- preventing the establishment of new weeds
- working from the top of a catchment down
- managing heavy infestations to reduce the threat of spread
- rehabilitating with native plant species to prevent reinfestation.

To help protect our creeks from weed invasion, avoid using plants in your garden that are likely to become a pest. It is always safest to use plant species that are native to your local area, particularly if you live near natural bushland and creeks (native wildlife will also prefer these). Remove weeds from your backyard and don't dump garden waste into bushland, creeks or parks. For advice on how to choose suitable species or report any garden waste dumping, telephone Council on (07) 3403 8888.



Dutchman's Pipe (*Aristolochia elegans*)



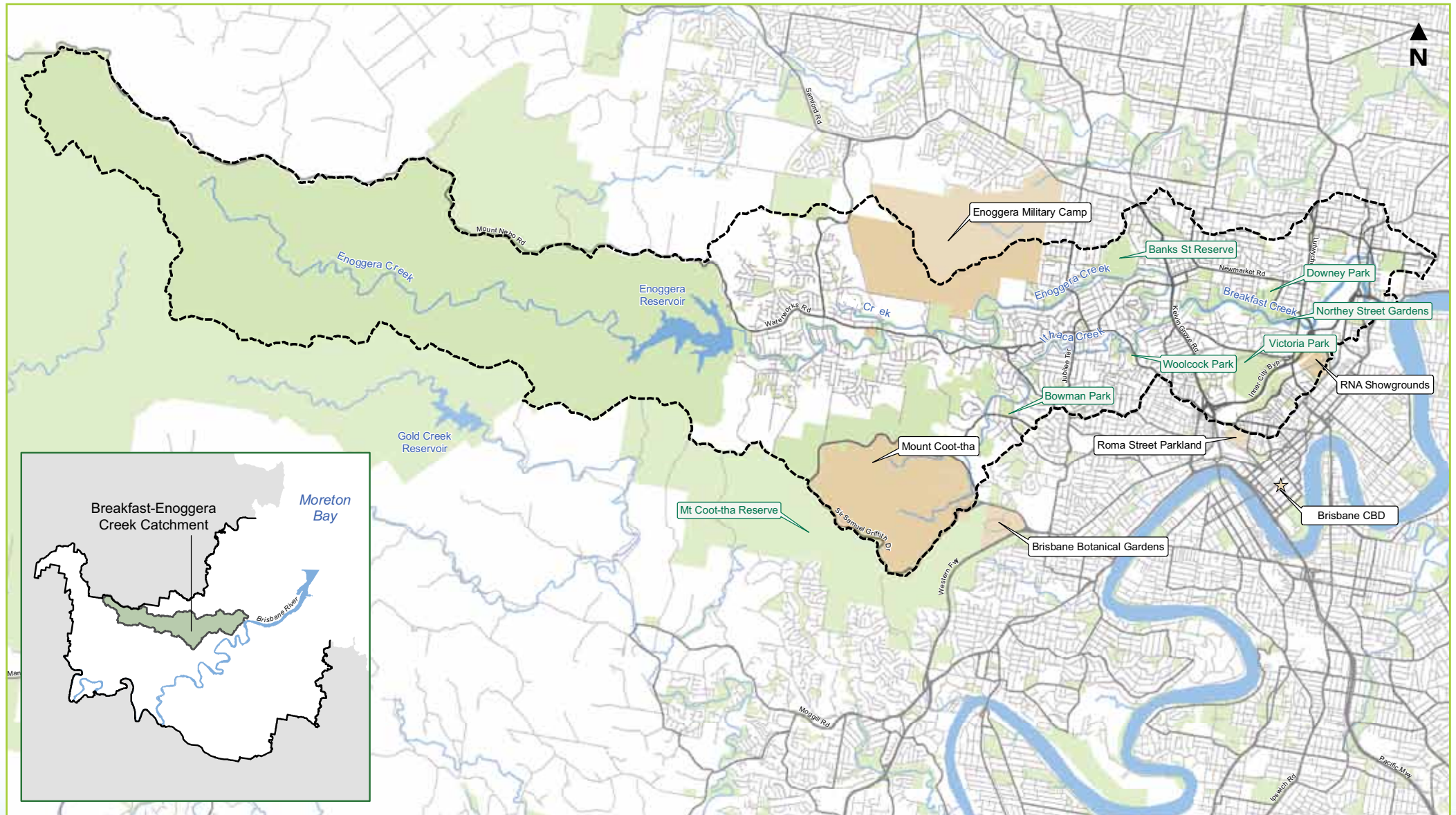
Ochna (*Ochna serrulata*)

### Weed species in the catchment

Typical weeds in the catchment include:

• climbing asparagus fern	<i>Asparagus africanus</i>
• madeira vine	<i>Anredera cordifolia</i>
• mist flower	<i>Ageratina riparia</i>
• Dutchman's pipe	<i>Aristolochia elegans</i>
• groundsel	<i>Baccharis halimifolia</i>
• mother of millions	<i>Bryophyllum spp.</i>
• Chinese elm	<i>Celtis sinensis</i>
• camphor laurel	<i>Cinnamomum camphora</i>
• lantana	<i>Lantana camara</i>
• privet	<i>Ligustrum lucidum</i>
• small-leaf privet	<i>Ligustrum sinense</i>
• cats claw creeper	<i>Macfadyena unguis-cati</i>
• mock orange	<i>Murraya paniculata</i>
• glycine	<i>Neonotonia wightii</i>
• ochna	<i>Ochna serrulata</i>
• corky passionfruit	<i>Passiflora suberosa</i>
• broad-leaf pepper tree	<i>Schinus terebinthifolia</i>
• Easter cassia	<i>Senna pendula</i>
• wild tobacco	<i>Solanum mauritianum</i>
• Brazilian nightshade	<i>Solanum seaforthianum</i>
• devil's fig	<i>Solanum torvum</i>

# Map of Breakfast-Enoggera Creek Catchment



## Waterway health

The health of our waterways is about much more than just the quality of the water. Healthy waterways are living systems, where many factors interact to produce a balanced and productive ecosystem with a high diversity of plant and animal species. They are resilient and can recover naturally from certain amounts of damage from either human input such as pollution, or natural events such as floods.

Problems occur when input from one of the many interacting factors gets 'out of balance' with the rest of the system. For example, increased levels of nutrients from sewage effluent and stormwater inflow can lead to excessive algae growth, or 'blooms', choking waterways, killing wildlife and exacerbating flooding.

To measure the health of a waterway we need to monitor a range of the interacting factors to provide an overall picture of its ecological condition.

In 2003 Council assessed the health of Breakfast-Enoggera Creek and its tributaries. Thirty-three sites across the catchment were surveyed for indicators including riparian vegetation, in-stream habitat, water quality, sediment and litter. An environmental health rating was then determined for each site. Ratings ranged from 'very good' in the upper catchment to 'poor' in some areas of the middle catchment, with most sites rated 'moderate' to 'good'. The creek system was given an overall waterway health rating of 'moderate' at the time.

Understanding the changes and trends in the condition of our waterways also requires ongoing evaluation. In 2006, Council commenced a citywide waterway

health assessment program with the aim of:

- providing a continuous long-term profile of the status of local creeks
- identifying the impacts of land use activities on waterway health
- evaluating the benefits of various waterway and catchment enhancement initiatives.

The program monitors 48 sites using a range of measures including monthly chemical measures of water quality, seasonal measures on algae and pathogens and annual measures on fish and vegetation. Once every three years a measure of the creek bank and bed condition will also be made.

This program complements the regional South East Queensland Ecological Health Monitoring Program, but covers more sites and provides more regular measures of creek condition. Results of the assessment will be used by the various waterway managers in Council and the community and will help to set future directions for waterway management.



Water testing - KO

## Creek lines and sewer lines

Sewage is 99 per cent water and is most economically and efficiently transported using gravity, i.e., water flows downhill. This has resulted in many of Brisbane's sewer lines running along natural low points in the landscapes – our waterways.

Brisbane's sewers are not designed to transport stormwater. However during periods of intense rainfall, stormwater can enter and overload the sewer system. This can occur through:

- cracks in the buried sewer pipes and pipe joints (infiltration)
- stormwater draining directly into sewers (inflow)
- faulty plumbing or illegal stormwater connections
- damaged maintenance holes and covers.

Once the flow in the sewer pipes exceeds the capacity of the sewerage system, diluted wastewater will flow out of the sewer system via overflow structures. These overflow points operate as an emergency safety valve to relieve pressure by allowing excess wastewater to overflow at planned locations. They have been designed to protect public health, property and prevent sewage backing up or overflowing into private property.

At overflow points, the bulk of the discharge consists of stormwater. Wet weather wastewater overflows have sometimes occurred in the Breakfast-Enoggera Creek catchment. How often they occur depends on how much stormwater enters the sewer network.

## How can you help prevent sewage overflows?

1. Ensure stormwater from roof gutters, driveways, paths and gardens is directed into a stormwater drain or rainwater tank, not into the sewerage system. It is illegal for stormwater pipes to be connected to the sewerage system.
2. Replace cracked and faulty sewerage pipes on your property. Council can check sewerage pipes on your property and advise if any need replacement.
3. Preserve the life of your sewerage pipes by not placing fats, oils, paints, solvents and other chemicals down drains. Liquids such as these can cause blockages and weaken pipes at their joints.
4. Do not plant trees with invasive roots on your property as these can enter sewerage pipes causing cracks and blockages.



RW



Volunteers planting on World Environment Day 2003 in the Gap

## Restoring Breakfast-Enoggera Creek

Many people in Brisbane have fond memories of their local waterways 'in the good old days'. Creeks were childhood playgrounds, shady swimming holes, places to fish or just a quiet spot to sit and think. While some creeks still provide these things, land use changes in their catchments, flood mitigation works and weed invasion have resulted in many of Brisbane's waterways bearing little resemblance to their 'original' state.

While returning most of our creeks to their former course and condition is no longer practical, or even desirable in some cases, there are many benefits to restoring some of their natural aspects and functions. Replanting streamside or 'riparian' vegetation can improve the health and amenity of our waterways in a number of ways. It can:

- trap sediment, nutrients and other contaminants before they reach the waterway
- reduce the rate of bank erosion and loss of valuable land and infrastructure, such as bikepaths

- shade the waterway, reducing water temperature and the growth of nuisance aquatic plants
- provide a source of food and habitat for stream animals
- provide an important area for conservation and movement of wildlife
- provide visual appeal and increase property values.

Council and the community are working in partnership to replant native vegetation and improve the health of Breakfast-Enoggera Creek.

### Community

The community plays an essential role in protecting and enhancing the city's waterways. Their activities range from 'hands on' work such as tree planting, weeding and monitoring water quality, to more strategic actions such as community education, providing input on catchment-wide planning and advocacy on environmental issues.

### Bushcare

Council's Habitat Brisbane program helps community groups restore natural habitats in parks, remnant bushland and wetlands and along waterways. Across the city the program involves over 2000 volunteers in more than 125 bushcare groups.

Over 20 Habitat Brisbane groups are active in the Breakfast-Enoggera Creek catchment. Volunteers from all walks of life work together to restore the environment along the creeks by:

- removing weeds and other rubbish and establishing native plants
- spreading the word in the general community through newsletters, open days, displays and presentations to schools and clubs
- reducing illegal dumping through community awareness and education
- improving the attractiveness of natural areas for visitors
- drawing people together to create an increased sense of community.

For more information on the Habitat Brisbane groups in the catchment visit [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au) or phone (07) 3403 8888.

### Save Our Waterways Now

Save Our Waterways Now (SOWN) is a community-based catchment organisation that aims to rehabilitate, restore and maintain Breakfast-Enoggera Creek catchment waterways and linked habitat areas by supporting and encouraging community participation. SOWN's objectives are to:

- restore catchment health and biodiversity
- provide a best practice working model for catchment group activities
- increase community awareness, understanding and participation
- support and encourage member activities and involvement.

Technically SOWN was initiated in 1994 by Brian Hallinan, then City Council Alderman for The Gap Ward, as a project of Men of the Trees. However, SOWN's precursor was the Enoggera Creek Beautification Committee which held its first planting on 26 January 1986.

To achieve its objectives, SOWN has developed partnerships with a variety of stakeholders, including Brisbane City Council, the State Government, and local businesses and schools, as well as with larger corporations outside the catchment. SOWN maintains its own volunteer-run nursery which propagates over 30,000 local native plants every year for use along the creeks. It also makes good use of its award-winning website ([www.sown.com.au](http://www.sown.com.au)) to distribute information and recruit and manage volunteers.

SOWN's flagship project is Ithaca Intact, a project involving local residents, businesses, Council and the State Government to strategically restore the entire seven kilometre length of Ithaca Creek. This is the first project in Queensland to attempt to restore the full length of an urban waterway.

Visit [www.sown.com.au](http://www.sown.com.au) for more information on Save Our Waterways Now and their activities.

## Council projects

Water sensitive urban design (WSUD) is a holistic approach to the planning and design of urban development that aims to minimise negative impacts on the natural water cycle and protect the health of aquatic ecosystems. It promotes the integration of stormwater, water supply and sewage management at the development site. There are a number of different WSUD designs already used within the city including:

- Biofiltration Basins – capture stormwater in a sunken garden bed, slowing the flow of water and allowing it to soak down through the garden where it is filtered and cleaned by natural environmental processes.
- Biofiltration Swales – capture stormwater in a long and gently sloped vegetated drainage channel, allowing it to soak down through the garden where it is filtered and cleaned by natural environmental processes.
- Constructed Wetlands – shallow, extensively vegetated water bodies that mimic natural wetland systems, using enhanced sedimentation, filtration and biological uptake processes to clean stormwater and slowly release it into our waterways.
- Sedimentation Basins – slow the flow of stormwater, allowing sediments and nutrients within the stormwater to sink to the bottom of the basin while the clean water on the surface flows on into our waterways.

- Stormwater Gardens – small landscaped areas within urban streets that capture stormwater runoff slowing its flow and allowing it to soak down through the garden where it is filtered and cleaned by natural environmental processes.

Historically, Stormwater quality improvement devices (SQIDs) were a primary method that Council employed to improve the quality of the water in Brisbane's waterways. Many of these devices – eg trash racks and gross pollutant traps – can still be found around Brisbane, particularly near large shopping centres or estates. WSUD has largely taken over the role of SQIDs as it provides a more holistic and integrated water cycle management approach to waterway health.



SOWN member with native raspberries  
(*Rubus probus*) RW



## Water - too much or not enough?

**Australia is a land of “drought and flooding rains”, as poet Dorothea Mackellar noted in 1908. Brisbane’s subtropical climate and increasingly unpredictable rainfall mean we still experience both of these problems, even occasionally at the same time!**

Both drought and flooding rains are events outside human control. However, with good planning we can reduce their impacts while creating a sustainable future for our city. By understanding how we fit in the water cycle, both as individuals and a society, we can all play a part in making Brisbane a water smart city.

### Flooding

Brisbane enjoys a subtropical climate, with a summer rainy season of thunderstorms and heavy downpours. This can put a lot of pressure on our stormwater drainage system and waterways. Brisbane as a city has evolved around its rivers and creeks. Much of the city’s growth has occurred on floodplains over many years of development, prior to full knowledge of flood risks.

In a typical urban area, surface run-off and roof water from properties are discharged onto roads and conveyed through underground piped drainage systems to our waterways. Stormwater also flows overland, along roads and footpaths and through properties and parklands into our creeks, rivers and eventually Moreton Bay.

If the intensity or frequency of rainfall exceeds the capacity of the drainage or waterway system, flooding may occur. While Council can undertake many programs and initiatives to reduce the impact of flooding on the residents of Brisbane, it can never eliminate flooding.

### Types of flooding

Brisbane experiences different types and frequencies of flooding. Depending on where you live, you could be affected by one or more types of flooding.

**River flooding** occurs when run-off from rain across the Brisbane River catchment exceeds the river’s channel capacity. For this to occur there must be widespread heavy rain throughout the catchment area over many days, such as from a cyclonic or “East Coast low” meteorological system.



Revegetating waterways provides important benefits for water quality, wildlife and amenity values. However, planting too densely in some areas may increase flooding upstream.

Planting carefully spaced single-trunked trees and selected ground covers can help minimise flooding while still creating a shaded main channel.



River flooding can take several days to peak depending on the amount of rainfall and where it has occurred within the catchment. The Brisbane River catchment covers around 13,500km<sup>2</sup> and runs from the peak of the Great Dividing Range, through the city centre and into Moreton Bay.

**Creek or waterway flooding** occurs when run-off from within a creek catchment exceeds the creek's channel capacity. This could result from a severe thunderstorm or periods of prolonged rain. Once the channel capacity is exceeded, water will flow over the adjoining land, i.e., the floodplain, as part of the natural process.

**Overland flow flooding** occurs when excess water concentrates in surface depressions, yards and gullies as it flows down roads and laneways to parks and creeks. Such flooding may result from a severe thunderstorm or periods of prolonged rain.

**Tidal flooding** happens when a storm surge combines with tides to reach higher than normal sea levels. A storm surge results when a low atmospheric pressure meteorological system and strong on-shore winds cause sea levels to rise above normal levels.

### Managing flooding

Council, in partnership with the community, has endeavoured to improve the function, quality, amenity and accessibility of Brisbane's waterways. Council uses a range of methods to reducing flooding impacts on the community.

### Flood mitigation

Since 1974 several major flood mitigation schemes have been implemented in Brisbane to reduce flooding problems. Some creeks have had bends straightened and their channel capacity increased to move floodwaters away more quickly. Stormwater infrastructure such as dams and detention basins have also been constructed to slow down the flow of excess water to the waterway and reduce flood heights. While these schemes, and

the construction of Wivenhoe Dam, have reduced river and some creek flooding, flooding in Brisbane can never be eliminated.

Structural mitigation measures are used only where other alternatives are not feasible, or where the benefits of reducing the flood damage exceeds the cost of the works. Council's preferred option is to prevent development within Brisbane's waterway corridors and floodplains.

### Waterway corridors

The protection of waterway corridors from development is important for water flow, waterway health, ecology, open space and recreational and amenity values of the city's waterways.

Waterway corridors are identified in Council's *City Plan* and indicate areas where any development or activity (including revegetation) needs to be strictly controlled to prevent an unacceptable increase in the surrounding anticipated flood levels.

To find out the location of waterway corridors along Breakfast-Enoggera Creek, visit a Council Regional Business or Customer Service Centre. See the 'Know who to talk to' section of this book for location details.



Blood vine (*Austrorsteenisia blackii*) RW

## Flood Management Strategy

Council is continuing to address the issue of flooding through the Lord Mayor's Task Force on Suburban Flooding (LMTFSF). The LMTFSF identifies and investigates a number of ways to reduce the impact of flooding and increase community awareness, including:

- designing public infrastructure and land use controls to take into account our subtropical climate
- establishing forecast and warning systems in collaboration with the Bureau of Meteorology
- constructing and maintaining programs for flood mitigation through a whole of catchment process
- raising awareness of flooding through a range of easily accessible flood information including fact sheets, flood studies and property flood reports.

## Another way Brisbane is becoming a water smart city

### Advice to residents and local businesses

When purchasing or renting a property or building a new dwelling or renovating an existing property, you should always contact Council or visit our website for a free FloodWise Property Report, to establish the type and levels of flooding that could occur on that property.

Residents and local businesses should familiarise themselves with the location of their local waterway and any overland flow paths (depressions and gullies in which the surface run-off concentrates or pools as it flows down the catchment), as well as

the potential impact of flood events in the vicinity. This information can be found by visiting [www.brisbane.qld.gov.au/floodmap](http://www.brisbane.qld.gov.au/floodmap) where you can download a Flood Flag Map of your suburb.

Properties situated at the lowest point of a road or that contain a drain or gully, will usually be affected by overland flow and flooding. Look at the slope of the ground around your property and note where the low points are and where water is likely to flow and/or pond.

The presence of flood markers or 'Road subject to flooding' signage in an area is a good indicator that flooding is an issue.

### What other information is available?

Additional publications are available from Council's Regional Business or Customer Service Centres, by phoning Council on (07) 3403 8888, or by visiting the Be FloodWise web pages at [www.brisbane.qld.gov.au/floodwise](http://www.brisbane.qld.gov.au/floodwise).



Moreton Bay ash (*Corymbia tessellaris*) - RW



## Water conservation

We should all do what we can to reduce water use. Making just a few changes adds up to big savings for you and our environment. Please make sure you also comply with any water restrictions that may be in force.

## Green choice gardening

### On your lawn

- Limit your amount of lawn area and use drought-tolerant grass suited to Brisbane. Don't mow lawns too short (about three centimetre stalks).
- Care for your lawn by applying compost or organic fertilisers, aerate the lawn with a fork for more efficient watering and water deeply with greywater (water from your laundry or shower).

### In the garden

- Maintain healthy soil. Soils in good condition absorb water best.
- Natural shade trees in the right position can reduce plant water use and offer opportunities for planting shade-loving native shrubs and ground covers.
- Mulch garden beds and pots. This reduces water lost to evaporation by up to 70 per cent.
- Group plants with similar watering needs together.
- Add organic wetting agents (available from garden centres) to help keep water and nutrients in the soil.
- Use glazed and non-porous pots and recycle plastic pots.
- Water only during allocated times to reduce evaporation and don't water when it's windy or likely to rain.

## Water-saving devices

Rainwater tanks prevent precious rainwater coming off your roof and ending up as stormwater run-off. Tanks supply water for use in the garden, flushing toilets and washing clothes and reduce flash flooding in our creeks. When using water from your rainwater tank, water restrictions do not apply, as long as town water does not enter the tank.

A greywater system using water from your bathroom or laundry (not toilet or kitchen) is a good alternative source of water for your garden. Water can be piped through a flexible hose or bucketed to any part of your garden, without requiring Council approval. If you plan to install a greywater diversion system that requires a connection to household plumbing you will need to apply for Council approval.

To check your property's suitability for greywater use or for further information, visit [www.brisbane.qld.gov.au/greywater](http://www.brisbane.qld.gov.au/greywater).



Pool blankets can save 100 litres of water a day that would otherwise be lost to evaporation. They also minimise chemical use, prevent debris entering your pool and increase water temperatures by up to 8°C. Pool blankets are easy to install as they simply float on the water's surface.

A watersense lifestyle can achieve water savings in your home. Look for products with a high star-rating on the Water Efficiency Labelling and Standards scheme (up to six stars). Install water saving devices such as flow restrictors, dual flush toilets and flood-stop safety valves.

As Australians we live on the driest inhabited continent on Earth. We need to be smart about the way we use water or we could end up looking at a dry future. There are many things you can do around the home to help conserve our precious drinking water.

- Check taps, toilets and showers for leaks.
- Make sure your dishwasher is full before switching it on.
- Only use your washing machine when it's full or adjust the water levels if possible.
- Use a shower timer to try to keep showers to four minutes.
- Use a broom to sweep driveways and paths.



SOWN members conducting water quality testing on Fish Creek at Walton Bridge Reserve, The Gap MC

## Know it's YOUR creek!

**We demand a lot from our waterways. We want them to provide habitat for wildlife, carry our floodwaters, absorb the pollution from their catchments and still have water safe enough to swim in. We want them to offer us open spaces to play, corridors to walk and cycle through and quiet places to sit and think. Many people expect all these things without any thought of how they themselves may be impacting on our waterways.**

Everyone lives in a catchment and is connected to their local waterway. If we want our waterways to perform these many functions we need to understand our role in protecting and enhancing them.

Council and community groups are already working hard to protect and improve our city's creeks and rivers. By following these simple tips, you can also play a part in creating a sustainable future for our waterways.

- Service motor vehicles regularly and watch for leaking oil, brake fluid or other chemicals.
- Wash your car on the grass and not on the street or driveway.
- Use fertilisers sparingly and lightly hose into the garden after application.
- Do not use pesticides if rain is expected.
- Use ground cover plants and mulch to prevent topsoils washing away and reduce erosion.
- Create depressions and gullies in our gardens to collect and absorb rainfall – your plants will love it.
- Pick up your dog's droppings, seal them in a bag and deposit this in your wheelie bin.
- Dispose of oil, paint, cleaners or chemicals at a Council Waste Transfer Station.
- Compost garden rubbish, especially lawn clippings. Do not dump it along creeks or in bushland areas. This can spread weeds and increase nutrients that promote algal growth in waterways.
- Dispose of litter in bins, or take rubbish home with you – remember, what misses the bin hits the Bay.

- Report all 'environmental incidents' such as chemical or oil spills and illegal dumping of garden waste and household rubbish, whether accidental or deliberate, to Council on (07) 3403 8888.
- Join your local catchment group and really get to *know your creek!*

## Know your rights and responsibilities

In many areas of Brisbane the land along waterways has been retained as parkland and provides public access. However in some older suburbs, including parts of the Enoggera and Ithaca Creek catchments, waterways often form the boundary between properties. Landowners in this situation have certain rights under law, but also some responsibilities for the management of that waterway.

### General environmental duty

#### What is duty of care?

The sound management of the environment and its natural resources is crucial to both the living standards and the quality of life enjoyed by the community. Although the contribution of an individual property owner to an environmental impact is often small, the cumulative impact across many properties can be dramatic.

A duty of care for the land involves those responsible for the management of natural resources taking all reasonable and practical steps to prevent harm to the environment. Environmental harm would include such things as land degradation (such as soil erosion and decline in soil structure), air pollution, water pollution (including by salt, agricultural chemicals



Brisbane blue gum (*Eucalyptus tereticornis*) RW

and nutrients), invasion of weeds and pests, noise, the destruction of ecosystems and habitat and loss of species.

In Queensland, duty of care provisions are set out in the *Environmental Protection Act 1994*, which states we must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures that prevent or minimise the harm.

### Queensland Government Legislation

A range of Queensland State Government legislation applies to properties adjacent to waterways. These include the *Water Act 2000* and the *Environmental Protection Act 1994*. Other Acts may also apply, depending on location and the type of activity planned.

**The following information should be used as a guide only. Landholders should consult the relevant state government agency for more information on their responsibilities under these Acts.**

### Water Act 2000

Under the *Queensland Water Act 2000*, the State retains all rights to the use, flow and control of all water in Queensland.

Where a watercourse forms the boundary between properties, the bed and banks of the watercourse are the property of the state. An owner of land adjoining a watercourse has right of access and grazing rights to that part of the bed and banks that adjoin their land. The owner of land adjoining a watercourse may also take water for stock and domestic purposes. Any works undertaken to extract water for these purposes, including placing a pump, must comply with a self-assessable code and be registered with the Queensland Department of Environment and Resource Management (DERM). Conditions apply on the amount of water that can be extracted for these purposes and the methods used. You can find a copy of the code and registration form at [www.derm.qld.gov.au/forms/water\\_management](http://www.derm.qld.gov.au/forms/water_management).

Under this Act, a permit from DERM is required to destroy native vegetation, excavate or place fill in a watercourse.

The *Water Act 2000* also applies to the extraction of riverine quarry materials eg stone, gravel, sand, rock, clay and soil, from a non-tidal watercourse, where the material will be sold or used for beneficial purposes such as building materials or fill. To extract any of these materials from a watercourse adjoining your property, a number of permits are required from DERM, and you may also require additional approvals from Council and the Environmental Protection Agency. DERM advises that for small amounts of riverine quarry materials, it is more economical to purchase it from a bulk provider.

For more information on the Water Act visit [www.derm.qld.gov.au/water](http://www.derm.qld.gov.au/water).

### Environmental Protection Act 1994

Under this Act, the *Environmental Protection (Water) Policy 1997* prohibits the deposit or release of the following things into a roadside gutter, stormwater drain or in a place where it could reasonably be expected to move or be washed into one of the above:

- rubbish
- scrap metal, motor vehicle parts, motor vehicle bodies or tyres
- building waste
- sawdust
- solid or liquid waste from an on-site domestic waste water treatment system
- cement or concrete
- a degreasing agent, paint, varnish or paint thinner
- any manufactured product, or any by-product or waste from manufacturing process, that has a pH less than six or greater than nine
- an insecticide, herbicide, fungicide or other biocide
- oil.

Penalties apply for breach of the legislation.

For more information on the *Environmental Protection Act* visit [www.derm.qld.gov.au/environmental\\_management](http://www.derm.qld.gov.au/environmental_management)

### Brisbane City Council Local Laws

A local law is a law adopted by a Council that reflects community needs and ensures the good rule and government of the area. Through local laws, local governments can establish permit or licence regimes for activities they want to regulate, to create offences for unacceptable behaviour and to allow for the issue of compliance or abatement notices.

### Waterway corridors

Council's *City Plan* identifies waterway corridors throughout the city and controls what types of activities can occur in these areas. Waterway corridors are designed to protect and enhance the water flow, water quality, ecology and recreational and amenity value of Brisbane's waterways. The size of waterway corridors are set for the Brisbane River and in other areas are generally the same as the old flood regulation lines, where they exist, or 30m setback on each side of the centre line of the waterway. Council's *City Plan*, aims to keep waterway corridors clear of development wherever possible, and any works such as building, filling or excavation requires a development application to Brisbane City Council. For more information please contact Council on (07) 3403 8888.

### Natural Assets Local Law 2003

This local law defines seven categories of protected vegetation. Any works on protected vegetation, e.g., clearing, pruning or trimming, require a permit from Council, although a range of exemptions apply.

Under this law, native vegetation within a waterway corridor is protected and can not be removed without a permit. For more information please contact Council on (07) 3403 8888.



Boondall Wetlands Environment Centre

## Know who to talk to

**In a world where we are surrounded by information, it's still often hard to know where to start looking. Use the list below to help find out more information on your local environment, Breakfast-Enoggera Creek and water management in Brisbane.**

### Brisbane City Council

GPO Box 1434, Brisbane Qld 4001  
Phone (07) 3403 8888

[www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au)

Council manages Brisbane's waterways and natural areas and supports community-based environmental initiatives through Environmental Grants, Creek Catchment Ranger and Habitat Brisbane Programs.

Council has Regional Business Centres in the Brisbane CBD, Chermiside, Sunnybank, Carindale and Indooroopilly.

Council also offers some school programs and community education activities at Downfall Creek Bushland Centre and Boondall Wetlands Environment Centre.

### Downfall Creek Bushland Centre

815 Rode Road, McDowall Qld 4053  
Phone (07) 3403 8888

Located at Raven Street Reserve – part of the Chermiside Hill Reserves – Downfall Creek Bushland Centre aims to raise awareness of Brisbane's bushland through nature-based recreational programs, school programs, community bush-care programs and special events.

### Boondall Wetlands Environment Centre

31 Paperbark Drive, Boondall Qld 4034  
Phone (07) 3403 8888

Located on the edge of Moreton Bay between Nudgee Beach, Boondall and Shorncliffe. The Boondall Wetlands Environment Centre hosts displays and activities based on the wetlands' environmental and cultural heritage. People of all ages can use the centre to learn about the Boondall Wetlands, its flora and fauna and their importance in the wider environment. A curriculum-based program is available for school students.

## Catchment community

### Save Our Waterways Now Inc.

PO Box 443, The Gap Qld 4061  
Phone 0423 763 361

[www.sown.com.au](http://www.sown.com.au)

e-mail: [info@sown.com.au](mailto:info@sown.com.au)

Save Our Waterways Now (SOWN) is a community-based organisation which aims to:

- restore catchment health and biodiversity
- provide a best practice working model for catchment group activities
- increase community awareness, understanding and participation
- support and encourage member activities and involvement

SOWN is very involved in the community and undertakes a range of activities to improve the health of the local waterways. The group maintains an excellent website with information on many activities, as well as the local flora and fauna.

## Acknowledgements

Many of the images in this *Know your creek* book were supplied by members of Save Our Waterways Now. The initials on the images denote the photographer and copyright on the image remains with them.

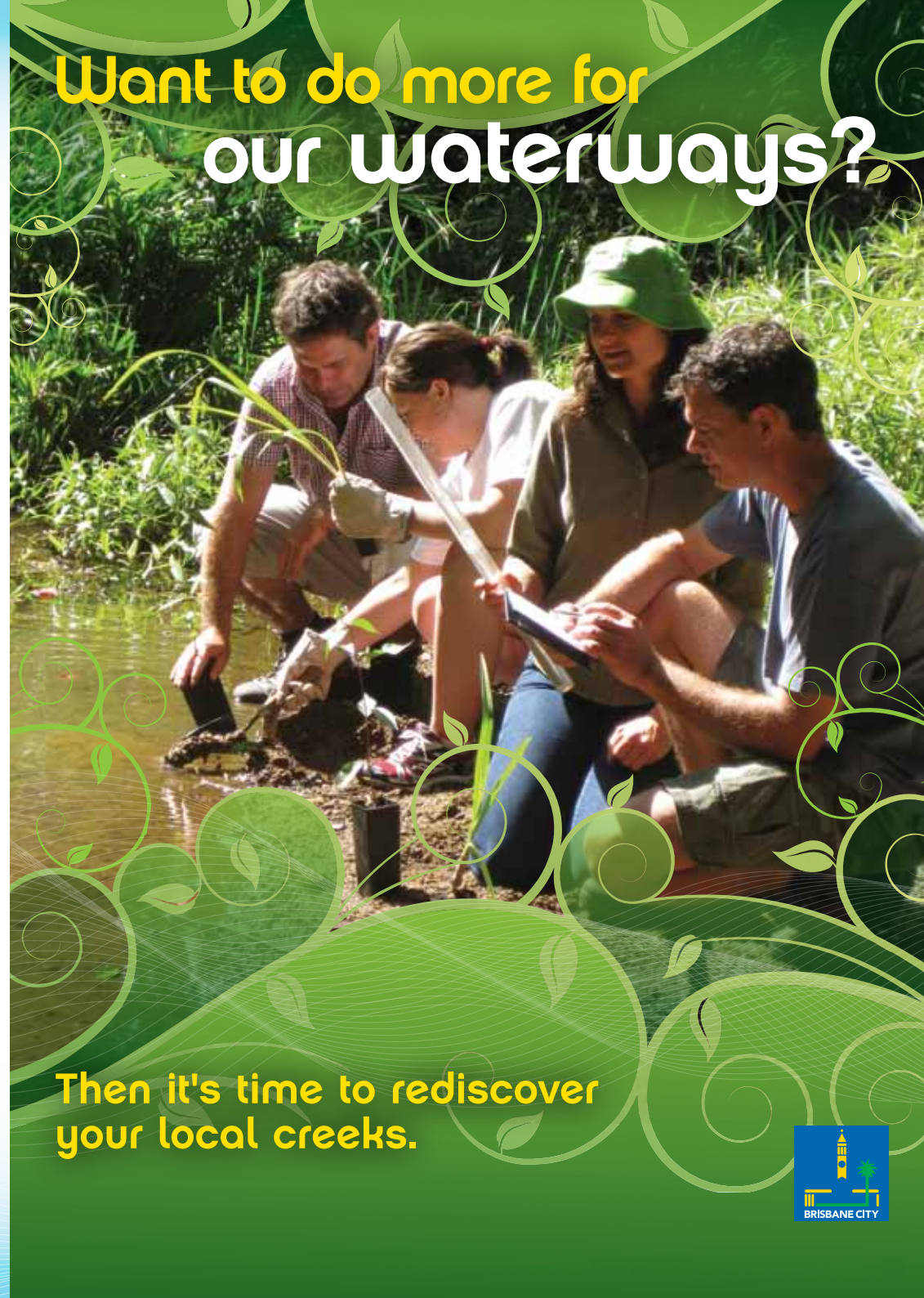
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RW - Robert Whyte  
MC - Mark Crocker  
KO - Klynt Oberto

## What do you think?

So we can continually make sure we are producing a high quality community booklet please visit [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au), go to the Know your creek section and tell us what you think.

# Want to do more for our waterways?



## Then it's time to rediscover your local creeks.



**Brisbane City  
Council Information**  
GPO Box 1434  
Brisbane Qld 4001

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visit [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au)  
or call (07) 3403 8888