Kedron Brook Catchment the story so far

Bolwarra *Eupomatia laurina, a* widespread shrub with glossy, dark green leaves on slender zig-zag arching canes. In spring and summer small brown weevils attracted by an ether-like perfume feed on densely packed staminodes and in so doing transfer the pollen to the stigmas RW

Kedron Brook Catchment the story so far

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Photographs Kedron Brook Catchment Branch Website KBCBW Anne Jones AJ Robert Whyte RW and other photographers credited with their photos. Charles Ivin was a dedicated webmaster and photographer for KBCB.

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Early settlers Mary and John Nicholson at their first bush house at Kedron Brook, 1865 State Library of Qld

History of Kedron Brook

North of central Brisbane, Kedron Brook begins with many streams on the slopes of Camp Mountain in D'Aguilar National Park.

The Brook runs 29 kilometres downstream to the west of Brisbane Airport at Nudgee, finally emptying into Moreton Bay via Schulz Canal.

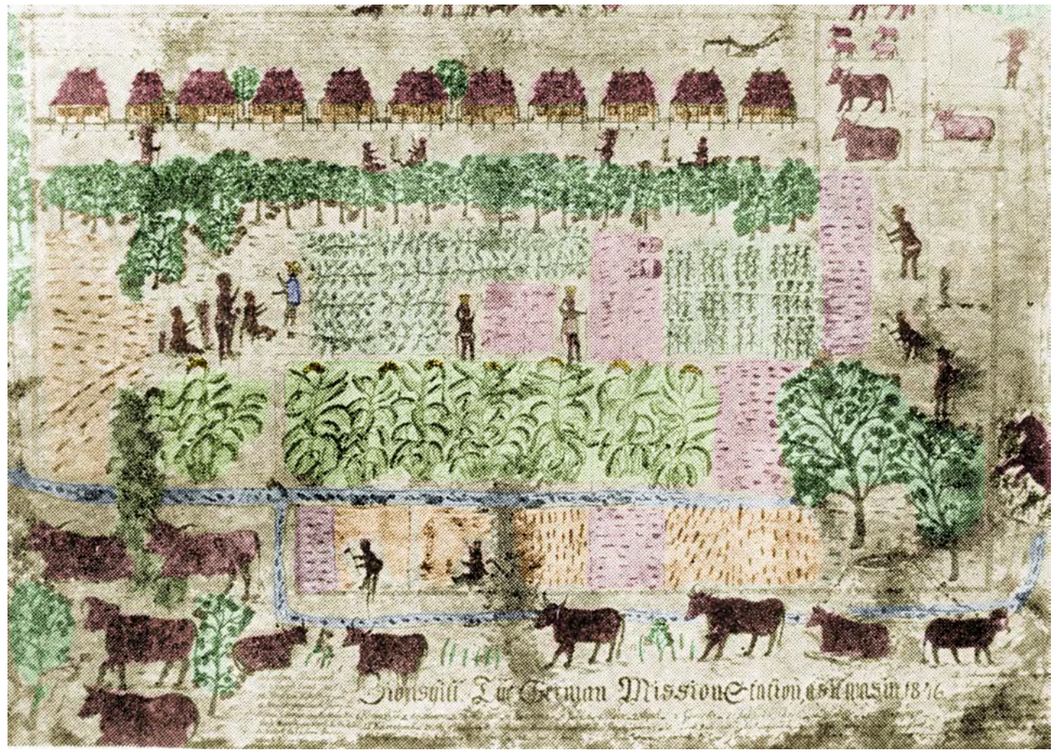
Cedar Creek joins Kedron Brook at Bob Cassimaty Park Ferny Grove. Sandy Creek joins at Grinstead Park Alderley.

Indigenous

The local Undumbi people, part of the Gubi Gubi nation also known as the Duke of York clan, influenced ecology in the area through plant and animal harvesting, fire and planting.

First white contact was made by three sailors, Pamphlett, Finnegan and Parsons, after they were shipwrecked on Moreton Island in 1823. Descendants of the Undumbi people continue to live in the area, actively researching their history and past ties with their land and its local geology, plants, animals and fungi.

Aboriginal people at Kedron Brook State Library of Queensland



1846 sketch by Carl Gerler depicting indigenous Australians, missionaries, livestock and agriculture at German Mission Station, also known as Zion Hill State Library of Queensland

Timber-getters in the Enoggera Ranges,1890
State Library of Queensland

Children in a boat on Kedron Brook at Alderley
State Library of Queensland

Settlement

The rich resources and attractive landscape of Kedron Brook attracted Brisbane's earliest European missionaries and settlers.

German missionaries, who established Zion Hill Mission in 1838, named Kedron Brook in reference to Jesus crossing Kidron Valley to enter the Garden of Gethsemane.

Further European occupation along Kedron Brook followed in 1842 when free settlement was allowed in the former penal colony.

As settlement expanded, settlers harvested timber and established market gardens on rich land. Early settlers exploited fish and wildlife, mostly bought from local Aborigines.

Increasing occupation during the 1860s and 1870s diversified development. Loggers harvested red cedar and pine from the upper reaches. Gold was mined at Bellbird Grove's Golden Boulder Mine. Small coal deposits from the Kalinga area supplied local needs. Brisbane tuff was quarried at Windsor, Stafford and Lutwyche.

Further development of Kedron Brook occurred along the route to the Gympie goldfields. This route, now called Lutwyche Road, was named after Alfred Lutwyche, Queensland's first judge. He built his house on the banks of Kedron Brook, naming it *Kedron Lodge*. The heritage-listed house is still standing.

Kedron Brook was described around that time as a "fairy-like stream, its banks lined with wattle, ti-tree and flowers". It was a favourite fishing spot.

Farms and market gardens growing maize, fruit and vegetables were established on the rich alluvial soils along the waterway. Grapes were grown for a time in the Mitchelton area.

Kedron Lodge, built by Alfred Lutwyche State Library of Queensland

Nicholson's farm at Kedron Brook, 1865 State Library of Queensland

Tannery workers beside the creek at the back of Gallagher's Kedron Tannery State Library of Queensland

1930 aerial view of Kedron Brook, looking east over Gordon Park towards Lutwyche and Wooloowin, in the foreground is Burnaby Terrace State Library of Queensland

Construction of post-war housing Stafford, 1946 State Library of Queensland

Brisbane boomed in the 1880s, Kedron Brook providing a reliable water source at a time when reticulated water supplies were limited.

Farming, urban and industrial development continued to spread more or less haphazardly to the west, proximity to water linking development and transport corridors.

Railway lines to Sandgate in 1882 and Enoggera in 1899 further boosted commercial development. In 1918 the railway extended to Mitchelton and Samford. More stations were added to the Sandgate line and a bridge suitable for trams was built on Lutwyche Road in 1927.

Abundant flow lent itself to water-intensive, polluting tanneries, the first of which was established in 1886 at Kedron. Others were located in the Ferny Grove and Keperra areas. This intensive use, combined with limited sanitation, led to severe pollution of Kedron Brook by the early 1900s.

Urban development

Subdivision of large allotments for suburban settlement began in the area before World War 2. The post-war period brought brought rapid suburban growth, development of housing estates and increasing ownership of cars. Shopping centres sprang up.

By the 1930s the once pristine creeks had lost a great deal of their vegetation. Water quality declined, the waterways becoming drains for the disposal of wastewater from industry and domestic sources, causing substantial environmental damage. There are tales of creek waters around Brisbane foaming with bubbles after the introduction of detergents. Unlike the soaps previously used, these new products did not break down in the natural environment.

Natural resources were increasingly depleted as development increased in intensity and moved upstream. Subdivision in the Stafford area in the 1940s was followed by development at Grovely, Arana Hills and Ferny Grove in the 1960s and 1970s. Clearing of native vegetation for housing development is still occurring in the upper catchment.

Landfills and refuse dumps on low-lying terrain were located at Grinstead Park, Wolverhampton Street, Hickey Park, Emerson Park, Upper Kedron, Teralba Park and at the Nudgee tip.

The development of the Eagle Farm and Brisbane International airports greatly modified the coastal plain which had supported many ecosystems including freshwater swamps, paperbark forests, coastal scrubs, mangroves and saltmarsh.

Eagle Farm airport had a major impact on Grange Forest Park during WW2 as an entire hill was removed by the Americans to provide foundations for new runways. This left a giant scar in the landscape often referred to as “the clay flats”. It is fascinating to watch this area being slowly reclaimed by vegetation.

Upstream bushland remnants can be found at a number of places along the waterway, including Enoggera Barracks, Sparkes Hill, Shaw Park and Grinstead Park.

Schulz Canal was built during the Great Depression to link Kedron Brook with the Serpentine Creek system.

Some industrial areas in the lower reaches of Kedron Brook have been replaced with residential or commercial developments.

The 1974 flood and subsequent mitigation had a dramatic effect on Kedron Brook. Habitat was lost, flow patterns changed, water heights dropped, and characteristics of the channel were substantially altered.

There are tales of creek waters around Brisbane foaming with bubbles after the introduction of detergents. Unlike the soaps previously used, these new products did not break down in the natural environment.

Schulz Canal at Nudgee Road. Flooding of low-lying areas in 2012 was due to a king tide ROBERT STANDISH-WHITE

The meeting that launched the Kedron Brook Catchment Branch of the Wildlife Preservation Society of Queensland on 20 April 2002 KBCBW

A catchment group

The Kedron Brook Catchment Branch of the Wildlife Preservation Society of Queensland was formed to manage environmental activities in Kedron Brook catchment.

The group has its origins in a network of people and groups interested in preserving and rehabilitating remnant habitat and parkways.

This interest has a long history. Greenbrook Association bushcare group was established in 1983 and is one of the oldest in Brisbane*. Parts of Ithaca Creek in the Enoggera catchment were being planted around the same time. Over the following years as people realised the value of waterways, parklands and bush, a number of other bushcare groups formed.

By the mid 1990s the efforts of the community, the Brisbane City Council and the Wildlife Preservation Society of Queensland were influenced by the need for whole-of-catchment management.

*The Littoral Society began rehabilitating the Brisbane River in 1979.

Catchment management develops

The launch of the Brisbane City Council's Habitat Brisbane Program encouraged and supported efforts of bushcare and other community groups looking after and regenerating public land.

At this time, several organisations (including the Wildlife Preservation Society of Queensland which had a number of members in the catchment) engaged in activities. By 2000 there were 37 regeneration sites.

Forming a catchment group

Application was made for funds for a position to help organise and facilitate catchment activities along Kedron Brook including activities for bushcare groups, schools, businesses and others.

This project was jointly funded in 2001 by the Wildlife Preservation Society of Queensland, Coastcare and Brisbane City Council. The position was filled by Ms Tina McLaren.

Getting underway

Coordinating energy and expertise soon showed positive outcomes with the number of bushcare groups in the Habitat Brisbane Bushcare Program increasing from six to thirteen. An informal catchment group formed, increasing communication and coordination. Highly informative, fun eco-tours of Kedron Brook were organised for volunteers and the group began publication of a newsletter *The Kedron Brook Babbler*. A brochure aimed at encouraging new householders to protect and restore areas of environmental and recreational value was produced.

The group compiled a list of business for future sponsorship opportunities, while media releases and displays highlighted public events such as National Tree Day and World Environment Day. Active school groups assisted in raising awareness.

Kedron Brook Fauna Habitat Study

A detailed study of fauna habitat by Dr Seonaid Melville, an environmental consultant and Kedron Brook resident, was funded by the Wildlife Preservation Society of Queensland. Dr Melville worked with bushcare groups identifying key fauna and their habitat requirements, resulting in suggestions for future plantings and fauna management strategies. The study highlighted a number of key conservation areas within the catchment.

Inaugural meeting

Kedron Brook Coordinator, Tina McLaren, worked to establish a formal catchment group to coordinate activities when her temporary position expired.

This led to the inaugural Kedron Brook catchment meeting in August 2001 where a working group was formed to draft the roles and objectives (expanded to include all individuals and groups interested in Kedron Brook and its environs) and to explore funding options. In 2002 the group became the Kedron Brook Catchment Branch of the Wildlife Preservation Society of Queensland.

Philosophy

The objective of the Kedron Brook Catchment Branch is to protect and improve the environment in the catchment area.

The Branch, whose aims are based on the concepts of knowledge, education, consultation, communication and advocacy, acts in an educational and facilitating role. Its members also take part in hands-on activities.

… to protect and improve the environment …

As communication enhances coordination of activities and enables action by consensus, education and awareness are pivotal.

Evidence-based decisions are geared towards restoring and improving environmental values in the catchment to the best, healthiest and most natural state possible for local residents and their children to live in. This involves everyone from individuals and grassroots organisations to governments.

A major focus of the catchment group is supporting currently active Habitat Brisbane bushcare groups, the Men of the Trees organisation, and the groups supported by Moreton Bay Regional Council.

Aims

- To coordinate and facilitate improvement of the catchment's environmental health.
- To coordinate community projects in the catchment.
- To link people with an interest in the catchment's environmental health.
- To encourage, facilitate and communicate research into the catchment's ecology.
- To liaise with business, government and other agencies to manage catchment environmental issues.
- To publicly promote the environmental values of the catchment and highlight the Branch's activities, aims and achievements.
- To enhance communication and education about the catchment's flora and fauna and their related issues.
- To maintain and create habitat and appropriate connecting corridors along Kedron Brook.

Catchment Profile

The physical environment affects all aspects of creeks and their associated life.

Landform is particularly important in determining the types of streams in any given area. Geology determines the soils present, their chemistry and erodability. Flow patterns reflect seasonal fluctuations in climate.

All these factors combine to produce local ecological patterns and processes. In an urban catchment these are overlaid by the impacts and constraints of human land use.

Opposite Windsor Town Quarry (now Windsor Park) is floodlit at night SHIFTCHANGE

Location

Kedron Brook's uppermost sections consolidate into two main tributaries, Kedron Brook and Cedar Creek (which joins Kedron Brook at Ferny Grove to the west of the Keperra Golf Course). From there, the stream meanders with an almost permanent flow through the well-established urban areas of Arana Hills, Mitchelton, Everton Park and Grange.

Sandy Creek joins Kedron Brook at Grinstead Park Alderley. This tributary flows through urban and industrial land before entering Kedron Brook. Kedron Brook is an artificial channel in parts of the Lutwyche, Wooloowin and Toombul reaches, where there are also extensive areas of open parkland or bush. Downstream from Toombul the channel is tidal, modified and re-routed to the north to drain the site of the current Brisbane Airport.

Cedar Creek at Ferny Grove RW

Kedron Brook enters Moreton Bay on the southern boundary of the Boondall Wetlands.

Landform

Landforms within the catchment are a result of geological history with erosion being the dominating influence for many millions of years.

Kedron Brook emerges in undulating hills of several geological types. In the middle reaches there is a broad flood plain. The lowermost sections, prior to the airport development, were a complex of low-lying swamplands and mangrove flats.

Geology

The oldest rocks in the catchment are Nerangleigh-Fernvale meta-sediments, widespread in the Brisbane area. These 360–332 million-year-old sediments were crumpled and uplifted, making part of a major mountain range.

A period of volcanic activity around 200 million years ago led to ash flows resulting in rocks of welded ignimbrite known as Brisbane tuff. Ash flows occur when extremely hot volcanic ash and dust travel close to the ground at very high speeds then settle and "weld" together into a very hard rock forming beds up to 80 metres thick. Dating of the ignimbrite from New Farm has yielded an age of 226 million years. The Brisbane tuff is revealing the landscape of Brisbane at the time of its formation. As more information comes to hand (particularly with the recent building of city tunnels) a picture is emerging of a mountainous landscape with deep valleys, scree slopes and large trees. Brisbane tuff has been quarried at Kangaroo Point Cliffs and at Windsor Quarry on Lutwyche Road and forms the hills around Lutwyche and Kedron.

Over time, swamps with vegetation, mud and clay compacted to form coal, notably in Kalinga. Basalt lava outcrops occur in the Clayfield and Nudgee areas. These rocks erode to rich red soils which supported early Brisbane agriculture.

Sandy terraces in Nudgee are indications of a higher sea level about 60,000 years ago when sediments were deposited on the floodplain between rocky hills in the middle and lower

Tree-lined banks of Kedron Brook, Toombul 1910 State Library of Queensland

Kedron Brook Brisbane 1920 State Library of Queensland

reaches. The present mouth of Kedron Brook was then a channel of the Brisbane River.

Soils on hilly areas are generally stony, clay-based and often nutrient poor. Better soils on the alluvial terraces tend to feature sand and gravel. Finer clay soils associated with more recent sediment deposits are found in the lower catchment.

In the last three million years repeated periods of glaciation have seen radical changes in sea level in Moreton Bay. There has been a rough pattern of periods of glaciation of approximately 100,000 years when sea levels fell, followed by periods of about 20,000 years where warming conditions caused glacial melting and the sea levels to rise again. Fluctuations in sea level are in excess of 150 metres. For large tracts of time Moreton Bay has been dry with a land bridge to Moreton and Stradbroke Islands.

Climate

Brisbane has a subtropical climate with hot wet summers and mild dry winters. Biological growth occurs during the whole year, resulting in highly diverse flora and fauna.

During summer and autumn, Kedron Brook floods in response to intense rainfall.

During the dry winters, the level of upper flow is reduced, but is supplemented by inflow from the surrounding water table. Water is lost through evaporation, particularly from areas of standing water. Dry conditions can result in moisture stress for plants during the period August-December.

In summer, rainfall, high temperatures and sunlight result in rapid growth.

Water quality

Water quality is dependant upon flow which varies with the years, the seasons and distance downstream from the headwaters.

Violent stormwater flows in rainy seasons cause bank erosion in the fast-flowing sections.

Water quality in the Kedron Brook catchment, though generally acceptable, still needs to be improved. Problems of urban and industrial wastes are amplified in times of low rainfall. The variety and number of native fish is usually lower than that of exotic pest fish, especially in times of poor flow.

Grassy swale at Wahminda Grove

Flora

Riparian forest

Sparse riparian canopies feature casuarinas and paperbark with an understorey of grasses, sedges and rushes. The canopy may cover the stream but doesn't densely shade the stream bed, whereas a closed riparian canopy does.

Along middle and upper reaches of Kedron Brook, Creek Myrtle *Waterhousea floribunda* is common, with occasional *Casuarina* spp., paperbarks and other native trees. Currently, weeds including Camphor Laurel *Cinnamomum camphora* and Chinese Elm *Celtis sinensis* contribute to the tree canopy. Understorey is variable; introduced grasses often dominate. In remnants and replantings *Lomandra* spp. have survived.

Eucalypt forests, woodlands

Several remnants of eucalypt open forests and woodland occur close to Kedron Brook.

This type of vegetation was common on the low hills surrounding the waterway. Some of the larger remnants are located within Grange Forest Park and in Sparkes Hill Reservoir. All forests in the area have been modified by humans to some degree.

The eucalypt forest types vary with aspect and soil type. A mix of *Eucalyptus*, *Corymbia* and *Angophora* are present in a relatively open forest canopy. Some scrubs regenerated after firestick farming ceased. The understorey includes dense shrubs in places but is grassy in most locations.

Kangaroo Grass *Themeda triandra* dominated the understore. Introduced grasses and herbaceous weeds often dominate now.

Paperbark forests

On the Kedron Brook flood plain prior to development paperbark forests were widespread with an understorey of grasses, sedges, rushes, ferns and herbs. The Brook's oldest stands of Coastal Paperbark *Melaleuca quinquenervia* can be seen at Keperra Golf

Sparkes Hill eucalypt woodland KBCBW

Course and along the tributary adjacent to the former site of the Australian Catholic University. Old trees persist, but the associated understorey has become severely weed infested. This rich habitat would have once supported ground orchids and other noteworthy species. Invasive weeds, including vines, threaten unmanaged stands.

Littoral riparian forests

Littoral forest occurs in areas with tidal influence, species reflecting the transition from a freshwater to a salty system.

The Beach Hibiscus *Hibiscus tiliaceus* is conspicuous in the canopy along coastal fringes of Kedron Brook. Beach scrub species include Tuckeroo *Cupaniopsis anacardioides*. Previiously, the understorey supported matrushes, ferns, lillies and sedges. Currently there is a small section of littoral scrub along the lower Kalinga and Toombul reaches of Kedron Brook.

Mangroves at Nudgee Beach near the outflow of Kedron Brook into Moreton Bay KBCBW

Mangroves

Mangroves occur from Toombul to Moreton Bay where water is salty, the most common being the Grey Mangrove *Avicennia marina*. Other species present include the River Mangrove *Aegiceras corniculatum* and Yellow Mangrove *Ceriops tagal*.

Understorey is generally absent in mangrove forests. Saltwater Couch *Sporobolus virginicus* occurs on the fringes along with Mangrove Fern *Acrostichum speciosum*, *Juncus kraussii* and Sea Purslane *Sesuvium portulacastrum*.

Grassland

Grasslands once dominated the floodplain because of firestick farming.

Native grasses and grass-like plants associated with wetlands provide cover and food for wildlife. They are useful in filtering stormwater, stabilising drainage lines, and can out-compete weed species if assisted.

Native species include sedges *Cyperus* spp., *Scirpus* sp., *Lepironia articulata*, *Baumea articulata*, *Eleocharis* sp., reeds *Juncus usitatus*, which is tolerant of a range of conditions, rushes Bulrush *Typha orientalis* and grasses *Phragmites australis*, *Paspalum distichum*, *Eragrostis* sp..

Native swamp grass *Phragmites australis* is a tall grass reaching three metres, tolerant of brackish water. It is an important component of wetlands, providing wildlife cover, preventing erosion and filtering sediment.

Remnants are present in the Nundah area and at the airport in a complex of woodlands and wetlands.

Since settlement, exotic grasses have often replaced the native grasslands and are probably more widespread than the native grasslands would have been.

Weeds including Para Grass *Urochloa mutica*, a fast-growing grass that establishes vegetatively, occurs in large swathes in the Kedron Brook channel along with *Panicum* spp., Cane Grass *Pennisetum purpureum*, Bamboo *Bambusia* spp. and Giant Reed *Arundo donax*.

Channelised section of a Kedron Brook tributary, capable of sustaining some life AJ

Remnant riparian forest at Brook Park in Ferny Hills RW

Modified habitat

Even when modified by human use, urban landscapes can provide many resources for wildlife.

Parklands

Parklands (mostly open spaces) may contain mature trees, often gum trees or paperbarks. Some parks were created after extraction of sand and gravel, in which case the altered soil structure limited regenerative capacity. Unmown understorey occurs in small pockets, often rehabilitated by bushcare groups in places beyond the mowers' reach. Weed-infested swales used as rubbish dumps have been replanted with complex native understorey supporting appropriate trees.

Channels

In artificial sections of Kedron Brook, sandy areas support Native Bulrush *Typha orientalis*, *Lepironia articulata* and *Juncus usitatus*. Many weeds including Para Grass *Urochloa mutica* are widespread. Natural channels still remain in the vicinity of Grange Forest Park and along the Keperra and Mitchelton reaches as well as in the headwaters.

Abandoned land

Cleared land attracts weedy grasslands or scrub with mostly introduced trees and shrubs and very few native species.

Chinese Elm *Celtis sinensis* and Camphor Laurel *Cinnamomum camphora* are commonly encountered trees and Lantana *Lantana camara* and Japanese Sunflower *Tithonia diversifolia* form broad swathes in the understorey. Aggressive weedy vines like Morning Glory *Ipomoea cairica* and Madeira Vine *Anredera cordifolia* have the capacity to smother shrubs and trees, reducing diversity and structural complexity. Some of the most extensive examples of abandoned, cleared land occur in the Mitchelton reaches.

Guinea Grass Green Panic is a pasture grass left over from the times when most present-day suburbs were farms

Green Panic *Panicum maximum* RW

Camphor Laurel *Cinnamomum camphora,* this weed tree suppresses germination RW

Weeds

A weed is a plant growing where it is not wanted. Trees like Camphor Laurel *Cinnamomum camphora* and Chinese Elm *Celtis sinensis*, planted in gardens many years ago, have been spread by birds. They grow into dense thickets outcompeting other plants.

Weeds change the habitat and reduce food sources available to native fauna, resulting in local extinctions. They reduce biodiversity and compromise biological health and resilience.

Many locally native shrubs once occurring in bushland have disappeared from along Kedron Brook, replaced by thickets of Lantana *Lantana camara* in the upper catchment, and by Japanese Sunflower *Tithonia diversifolia* and grasses in the middle and lower catchment. Para Grass *Urochloa mutica* and Guinea Grass *Panicum maximum* is common at the water's edge. Giant Reed *Arundo donax* often forms impenetrable stands.

Lantana *Lantana camara* in the upper catchment. Its positive use in habitat is often overstated RW

Weed Control

The extent of the weed problem along Kedron Brook is so great, targets must be prioritised. Plants routinely targeted for weed control in bush management activities are briefly described below.

MADEIRA VINE

Madeira Vine *Anredera cordifolia* is an aggressive, smothering vine able to grow from small sections of leaves, stems, tubers or roots. Careful removal of all parts of the plant is required.

MORNING GLORY

Morning Glory *Ipomoea cairica* is a fast-growing weedy vine capable of smothering. It has a strong and extensive root system from which it will re-shoot if it not removed from a site. It is often seen growing over abandoned built structures.

SINGAPORE DAISY

Singapore Daisy *Sphagneticola trilobata* is a spreading herb that readily grows from fragments of stem. It forms dense mats along sections of Kedron Brook. It is resistant to commonly used herbicides.

CHINESE ELM

Chinese Elm *Celtis sinensis* is a large, fast-growing woody tree well established in many parts of the lower catchment and widespread elsewhere in Brisbane. Maintaining good native tree cover will prevent invasion of this species into bushland, and removal of small Chinese Elms before they form fruit will help prevent further spread.

GUINEA GRASS AND PARA GRASS

Guinea Grass *Panicum maximum* and Para Grass *Urochloa mutica* are typical grasses of "disturbed" areas. Mechanical control of large areas can damage or destroy fauna habitat. Treated areas must be replanted and stabilised to prevent further weed invasion or erosion.

JAPANESE SUNFLOWER

Japanese Sunflower *Tithonia diversifolia* forms dense thickets several metres high, rapidly colonising new areas. Control prior to flowering helps prevent spread. Because it is not tolerant of very dry periods native plants may get an edge on this shrub during drought.

Weeds do have some uses

In many areas, particularly hill slopes and stream banks, the presence of some vegetation (even weeds) is better than bare soil. A vegetation cover on the ground helps protect and bind. Removal of weeds will expose soil to erosion. Jute matting, mulch, jute mesh, coir logs or rocks are often utilised to stabilise treated areas.

Weeds can provide fauna habitat but are far inferior to the native plants. Cisticolas and other small birds can utilise Para Grass for nesting and hiding, the birds feeding on the grass seeds. Lantana can offer some shrubby cover for bandicoots, ground-dwelling birds and reptiles.

How do weeds get into bushland?

Most of the weeds occurring along Kedron Brook have escaped from urban gardens, outcompeting native plants with their ability to flower and seed profusely, and to grow from parts of the stem. They reach the waterway via stormwater, are blown on the wind, or are dispersed by birds, bats and other animals. People are responsible for spreading weeds by many means, including on machinery. Soil, lawn clippings or other refuse should never be dumped in bushland. This is material people don't want in their backyards; it is even less desirable in the local bushland or stream.

Prioritisation is the key

Some weeds can exist in bushland without disastrous effects. It is where weeds threaten bushland remnants or natural biodiversity that bushcare groups and others work towards weed removal and replacement with native plants to protect the soil, provide fauna with resources and increase the natural biodiversity of an area.

Weed references

A Weed Identification and Control Project was conducted in major remnant forests along Kedron Brook in 2005-2006 by then BCC Catchment Coordinator, Nathan Kirby.

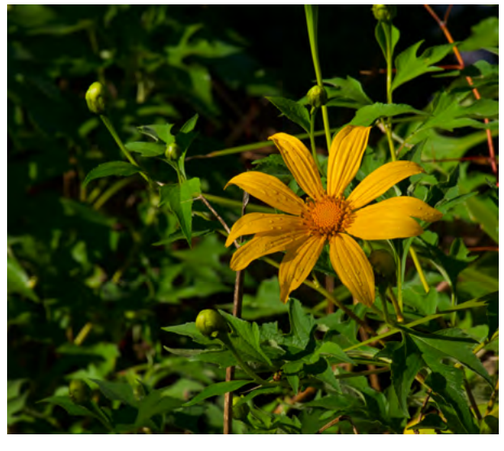
Giant Devil's Fig *Solanum chrysotrichum*. This is a particularly nasty weed RW

Singapore Daisy *Sphagneticola trilobata*, resistant to glyphosate herbicide and able to sprout from stem fragments RW

Black-eyed Susan Vine *Thunbergia alata* at Brook Park, not a serious menace but on the rise RW

Morning Glory *Ipomoea indica* is extremely difficult to eradicate RW

Japanese Sunflower *Tithonia diversifolia,* a flowering giant in large stands RW



Velcro Weed *Desmodium uncinatum,* as its name suggests, it sticks to fabric RW

Polka-dot Weed *Hypoestes phyllostachya,* one of many pretty garden escapees RW

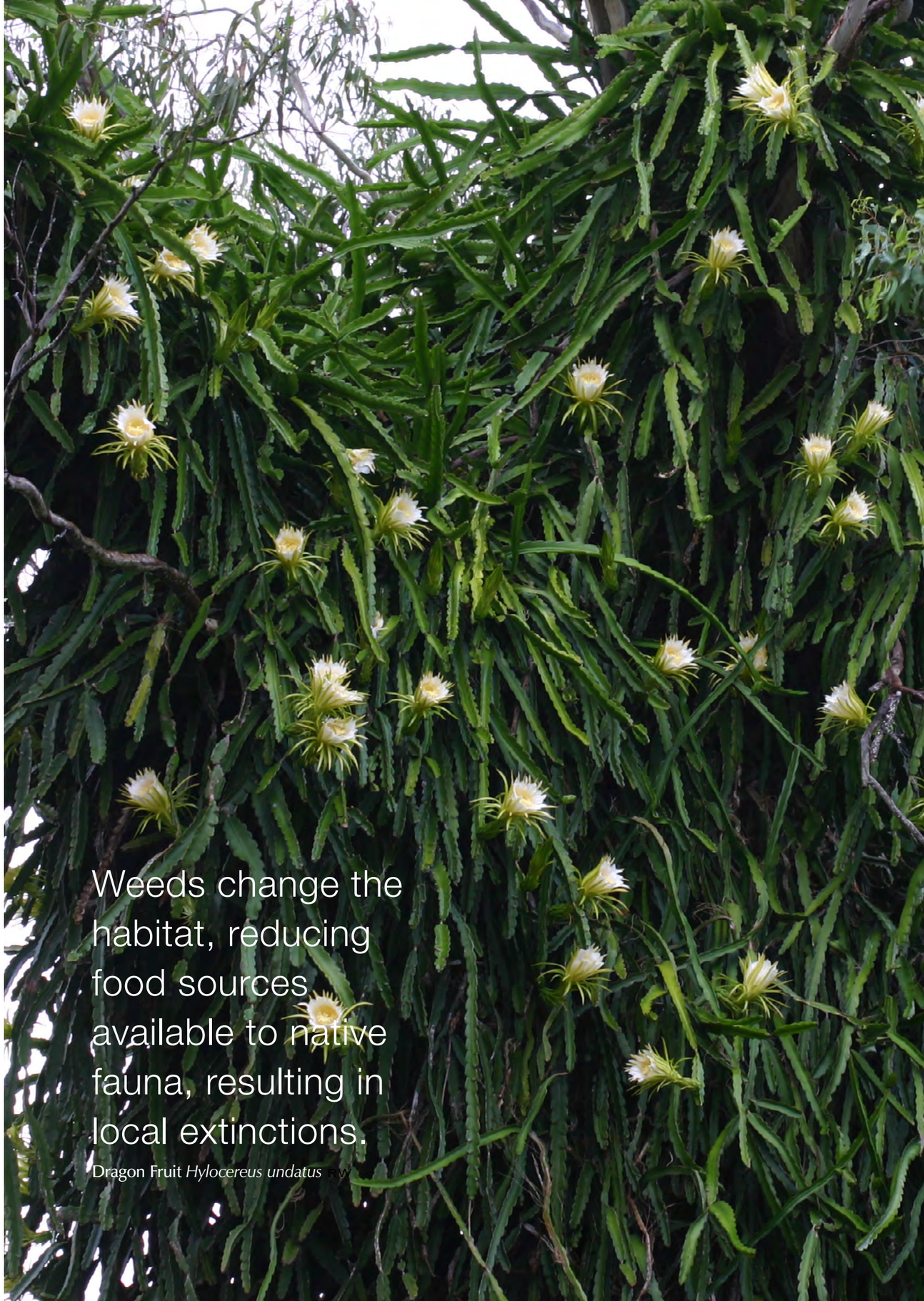
Chinese Elm *Celtis sinensis,* a well-established woody weed capable of forming impenetrable thickets RW

Dutchman's Pipe *Aristolochia elegans*, a threat to the Richmond Birdwing Butterfly MARK CROCKER

Brazilian Nightshade *Solanum seaforthianum,* a common weed in coastal areas AJ

Below Cane Grass *Pennisetum purpureum,* usually develops into a monoculture RW

Elderberry *Sambucus canadensis,* made into a wine in England RW



Weeds change the habitat, reducing food sources available to native fauna, resulting in local extinctions.

Dragon Fruit *Hylocereus undatus* RW

Fauna

The diversity and abundance of local fauna has been severely restricted by the development since European settlement.

Roads form barriers to animal movement and are a direct threat by road kill. Predation by domestic and feral animals is a particular threat to ground-dwelling fauna, poorly represented in Kedron Brook landscapes.

Invertebrates

Invertebrates are animals without backbones including insects, spiders, crustaceans, worms and molluscs. Aquatic habitats are important for many invertebrates as water supports and protects their bodies as well.

Invertebrates may live entirely in water or have part of their life cycle (such as larval stages) in water. Some are drawn to water as a source of food and to drink.

Aquatic invertebrates, feeding on algae or rotting plant material, often form the basis of food chains in aquatic and terrestrial ecosystems. They vary in sensitivity to physical and chemical changes. Abundance and diversity may vary seasonally or suffer because of a decline in water quality. Bio-monitoring of aquatic fauna determines water quality on the basis of persistence of sensitive species in the waterway.

Common Flatwing Damselflies MARK CROCKER

The Giant Water Bug (see page 116) is the largest of its type in Australia. Burrows have been observed at Osborne Road and Sparkes Hill on bare soil areas not far from Kedron Brook.

Streams are key habitat for many of the dragonflies and damselflies which spend the nymph stages of their life cycle in the water.

Freshwater crustaceans (shrimps, prawns) have their highest diversity in the less polluted upper catchment. Sediment threatens crustaceans, which are filter feeders and live in running water or larger pools; they may

Opposite Golden-tailed Ants *Polyrhachis* sp. at Brook Park RW

Below This Orb-weaver spider *Araneus praesignis* found at Bob Cassimaty Park has become known as the Alien Butt Spider due to the unusual markings on its abdomen RW

Blue Tiger *Tirumala hamata*, sometimes seen in mass migrations. Larvae feed on a wide range of plants including *Parsonsia straminea* RW

Male and female Crimson Spotted Rainbowfish *Melanotaenia duboulayi* CC BY Roan Art

be associated with emergent or submerged vegetation. Many coastal crustaceans are extremely sensitive to disturbance and pollution.

Termites of the genus *Nasutitermes* construct nests in trees. They build soil galleries (trails) running up the trees and feed on dead wood. Kingfishers, kookaburras and lizards use the nests as residences.

Butterflies can be encouraged to an area if there are suitable larval food plants, as well as water and food for adults (nectar and other plant juices). They will increase in numbers if they have specific or general host plants on which they lay eggs. The host plant provides food for the larvae when they hatch and protection during pupation. Different butterflies have different requirements.

Increased diversity of flowering native tree, shrub, grass, vine and herb plants, both along the waterway and in gardens, will increase the diversity of butterflies able to use an area. Pesticides applied to fruit trees and garden plants will harm butterflies and their larvae. Exotic flower gardens and weeds limit food sources for specialised native species. Some butterflies have become rare in South East Queensland due to loss of habitat.

Fish

Native fish including Gudgeons, Crimson-spotted Rainbowfish, Olive Perchlet and Pacific Blue-eyes have been reported in Kedron Brook, but many otherfish have been introduced, notably Mosquito Fish *Gambusia*. Aquarium fish (including guppies, platys and swordtails) are common in the middle reaches.

Larger native fish are found in permanently flowing sections, including Silver Perch which swim in small schools close to the surface; especially in warmer months.

In spring the male Eel-tailed Catfish build nests in the sandy shallows by swimming round in circles to form a mound of bare rocks and a circle of bare sand. Once the female has laid eggs, the male guards the nest for up to three weeks. On hatching, juveniles dart away to hide in aquatic vegetation. Exotic Carp and Tilapia threaten larger native fish species especially Eel-tailed Catfish.

Common frogs of Kedron Brook Catchment, above Graceful Tree Frog *Litoria gracilenta* Adam Maund
below Ornate Burrowing Frog *Limnodynastes ornatus* Adam Parsons

Above Eastern Sedge Frog also known as Eastern Dwarf Tree Frog *Litoria fallax* calling Adam Maund
Below Eastern Sedge Frog in a more often seen mode RW

Above Striped Rocket Frog *Litoria nasuta*, below Naked Tree Frog *Litoria rubella* calling ADAM PARSONS

Above Bleating Tree Frog *Litoria dentata* calling, below middle left Tusked Frog *Adelotus brevis* ADAM PARSONS middle right *Adelotus brevis* spawning KBCBW Bottom left Green Tree Frog *Litoria caerulea* ADAM PARSONS Bottom right Beeping Froglet *Crinia parinsignifera* CC BY MATT CLANCY

Amphibians

In the 1970s a sharp decline in world frog populations occurred. In some cases habitat loss caused decline, in other areas the reasons are less well known.

Tree frogs, marsh or sedge frogs and burrowing frogs all occur in the vicinity of Kedron Brook. The utilisation of breeding areas by the different groups is not distinct, different species overlapping their breeding habitats.

Frogs tend to be opportunistic. They breed when there is sufficient water at suitable temperature. Therefore, permanent ponds are not necessarily required. Frogs often breed unnoticed in inconspicuous areas. Many species can utilise pools of standing water on playing fields, in parkland and in intermittent drains. Breeding is successful in these locations if there is sufficient time for the tadpoles to develop before the water body dries up and if they can survive predation.

For frogs to breed they generally need off-stream habitat, appropriate water temperature and ponds, vegetative protection for emergent froglets and nearby habitat or linkages to habitat suited to adults.

The 2007–2008 Frog Census recorded
- *Adelotus brevis* Tusked Frog
- *Limnodynastes peronii* Striped Marsh Frog

Striped Marsh Frog *Limnodynastes peronii,* common and abundant GEOFF WALKER

Eastern Sedge Frog *Litoria fallax*, a small and very common tree frog found on the eastern coast of Australia, from around Cairns, Queensland, to around Ulladulla, New South Wales RW

- *Limnodynastes terraereginae* Scarlet-sided Pobblebonk
- *Litoria caerulea* Green Tree Frog
- *Litoria dentata* Bleating Tree Frog
- *Litoria fallax* Eastern Sedge Frog
- *Litoria gracilenta* Graceful Tree Frog
- *Limnodynastes ornatus* Ornate Burrowing Frog
- *Rhinella marina* Cane Toad

Frog breeding in Kedron Brook is limited by the presence of introduced fish and competition with Cane Toad tadpoles. Cane

Cane Toad *Rhinella marina*, deliberately introduced, now a pest in Australia CANE TOAD THE CONQUEST, 2010 FILM BY MARK LEWIS.

Green Tree Frog *Litoria caerulea* sculpture at the site of the Tuesday Tree Liberators, created during a community sculpture workshop AJ

Toads, a tough and adaptable species, are able to utilise concreted drains and other modified structures to breed and develop. They tend to breed earlier in the season, often in response to light rainfall not sufficient for native species.

Kedron Brook turtle sculpture – volunteers discovered a talent they never knew they had under the guidance of professional sculpture artist Paul Stumkat AJ

Reptiles

Reptiles found in the catchment include turtles, lizards and snakes. Reptiles are ectothermic, which means they rely on an external heat source such as the sun to raise their body temperature for normal activity. The skin of a reptile is generally dry and scaly. Sometimes the scales are modified to form ridges or spines to aid in defence or camouflage.

The kidneys of reptiles work quite differently from those of mammals and birds. Instead of producing urine, a reptile's kidneys produce a dry uric acid. This helps retain water in the body and enables reptiles survive in some of the driest climates on Earth. Reptile scats can be identified by their black solid waste component and white urates.

Turtles

Three species of freshwater turtles have been seen in Kedron Brook: Eastern Long-necked Turtle, Saw-shelled Turtle and Brisbane Short-necked Turtle.

The Long-necked Turtle can be found in standing water and ephemeral wetlands. It is identified by plates on the plastron (underside) which are creamy-yellow, edged with black. It feeds on aquatic insects, crustaceans, fish, tadpoles and frogs.

The Short-necked Turtle lives in standing water bodies and slow-moving streams. Its carapace (upper shell) is approximately 20-23 cm long. It has a white stripe along the side of its face.

The Saw-shelled Turtle prefers flowing streams. The rear of the carapace is heavily serrated, less so in older animals. Its neck is short and spiny. Saw-shells are carnivores, eating tadpoles, fish, frogs, aquatic insects and Cane Toads.

Lizards

There are four families of lizards represented in the Kedron Brook catchment: skinks, dragons, geckoes and flap-footed (legless) lizards.

Male Blue-tongued Skink *Tiliqua scincoides* warms in the sun Debbie Dolby

SKINKS

The scales of skinks are usually glossy, smooth, flat and overlapping. Their limbs vary from long and well developed on skinks that are active runners and climbers, to virtually limbless. Most have the ability to “drop” and regenerate their tail. Males and females are usually very similar in colour and pattern.

One of the most often seen skinks around Kedron Brook, with a triangular head and distinct neck, is the Common or Eastern Blue-tongued Skink, one of Australia’s largest skinks ,reaching over 50 cm in total length. Its tongue is violet-blue. It has short legs, is generally slow moving and not a skilled climber. Its tail is rather solid and relatively short. Blue-tongues are active by day. They give birth to live young throughout the summer months.

The Eastern Water Skink is common wherever there is a constant water supply and suitable cover. It can reach a total length of greater than 25 cm with a long, slightly vertically compressed tail, metallic bronze above with a pale yellow line running along the body between the back and flanks. The upper flanks are black with small white spots. The lower flanks are pale grey mottled with darker grey. The Eastern Water Skink feeds on beetles, aquatic larvae, spiders, snails, small fish, native fruits and berries. Live young are born in summer.

Eastern Water Skink *Eulamprus quoyii* common skink near running water CC BY John Tann

DRAGONS

All dragons have well-developed limbs, making them fast runners and good climbers. Some are excellent swimmers. They also have excellent hearing. Most dragons are active during the day. Skin folds above the eyes have well-developed brow scales that shade the eyes, protecting them from the direct sun. The remaining head and upper body scales are dull with distinctive sharp points. In some dragons these form spines. Dragons are generally insect eaters, but the larger dragons may eat smaller lizards, small mammals and birds. Some dragons also eat flowers, fleshy leaves and fruits. Males and females of most species are similar in colour and pattern but the males are often larger. In the breeding season males tend to be more brightly coloured and patterned. Dragons will display by arm-waving and head-bobbing.

The Eastern Water Dragon is commonly seen along Kedron Brook. It is a large dragon reaching a total length of over 80 cm. Its angular head has a crest of spines that continues down its back and along its laterally compressed tail. Its body is an overall yellow-brown colour with dark bands. A dark stripe extends from behind the eye to the neck. In breeding the male’s chest and belly can become a vibrant red. The Eastern Water Dragon has a diverse diet including cicadas, spiders, grubs, frogs, fruit (especially from figs and lilly pillies), flowers, smaller lizards, yabbies and fish.

The Eastern Bearded Dragon is seen in suburban backyards, reaching a total length of up to 55 cm. The overall body colour is blotched grey. Low spines cover the back, tail and legs. A collar of spines runs across the back of the neck and around the lower edge of a pouch-like “beard”. When threatened the beard is erected and the mouth opened to reveal a bright yellow. Eastern Bearded Dragons eat insects, spiders, small lizards, flowers, fruits and fresh shoots.

Eastern Water Dragon *Physignathus lesueurii* CC BY-SA Aravindhanp

GECKOES

Geckoes are small, generally less than 20 cm. Their large eyes are permanently covered by a transparent lower eyelid fused to the upper lid. Cleaning of the transparent eyelid with the tongue is characteristic of geckoes. Fingers and toes have pads or claws (or both). Those with pads are climbers and live on steeply sloping surfaces such as trees and rock-faces. Those with claws are ground dwellers. Like the skinks, geckoes can drop part of their tail which will regenerate. Geckoes feed only on moving prey, including spiders, insects and scorpions. They have well-developed hearing.

The most common gecko in Kedron Brook Catchment is the introduced Asian House Gecko, the only non-native gecko in Australia. It is about 9 cm long, pale grey to fawn in colour with darker mottling. There is a row of small spines along the edges of its tail. The Asian House Gecko is common inside houses, most easily identified by its distinctive "chuck-chuck-chuck" call.

The Robust Velvet Gecko grows to about 15 cm, and is grey in colour with large pale, dark-edged blotches along the entire length of its body and tail. Small, regularly shaped scales give a velvety appearance. It is strictly arboreal, sheltering in tree hollows and under loose bark by day, foraging on trunks and lower limbs of trees at night.

Stone Gecko *Diplodactylus vittatus* DEBBIE DOLBY

LEGLESS LIZARDS

Legless lizards generally have no forelimbs and a reduced pair of scaly flaps either side of the vent. They are more closely related to geckoes than they are to snakes. They have fused transparent eyelids that they clean with a slightly elongated tongue. Legless lizards can also drop and regenerate their tail.

There are four distinguishing features between legless lizards and snakes

- legless lizards have ear-openings, snakes do not
- belly scales of a legless lizard are arranged in pairs, snakes have single broad plates across the belly
- legless lizards have a fleshy tongue, snakes have a slender, deeply-forked tongue
- a legless lizard's tail is about three to four times the length of its body; a snake's tail is a lot shorter than its body, usually less than one quarter of the snake's total length.

Common Delma is found throughout the western and northern suburbs of Brisbane. It reaches about 35-40 cm in length and is uniform brown to olive in colour, except for dark patches on the head and neck. It shelters in leaf litter, under logs or rocks, or under old grass tussocks.

Three-toed Worm-Skink, or Verreaux's Skink grows to about 38 cm found in a tunnel under a rock or log and in adjacent mulched soils, feeding on crawling insects, insect larvae and spiders. Verreaux's Skink has small forelimbs each with three very short clawed

Asian House Gecko *Hemidactylus frenatus* RW

toes. It is yellow below. Juveniles have a pale yellow collar.

Snakes

There are four Australian families of land snakes: elapids, colubrids, pythons and blind snakes.

Elapids are venomous, with fangs in the front of their upper jaw. While Australia has some of the deadliest snakes in the world, the majority of elapids do not harm humans.

Colubrids have either no fangs, or fangs at the back of their mouth.

Pythons are non-venomous with large, backward curved teeth. They kill prey by constriction. Heat sensory pits along the lower jaw able to detect temperature changes of less than one thirtieth of a degree allow them to locate warm-blooded prey.

Burrowing blind snakes are short (less than 40 cm), worm-like, with dark pin-point eyes. Their small, glossy, close-fitting scales give them a smooth appearance. Blind snakes often live in enlarged galleries within the nest of their insect prey, termites and ants. Following rain, they may emerge to forage on the surface and shelter under rocks of fallen timber, or in cracks in the ground.

ELAPIDS

The common Small-Eyed Snake is aggressive if provoked and dangerous to humans. The

Red-bellied Black *Snake Pseudechis* porphyriacus, dangerous to humans CC BY OLIVER NEUMAN

Yellow-faced Whip-Snake *Demansia psammophis,* dangerous to humans. CC BY-SA TOM TARRANT

back, sides and head are an immaculate glossy blue-black. There is a narrow area of coral pink on the belly. It is somewhat similar in appearance to the Red-bellied Black Snake but much smaller. Red-bellied blacks can reach as long as two metres, the Small-Eyed Snake rarely reaches one metre and is usually only about 500 mm. The Small-Eyed Snake is nocturnal and feeds predominantly on lizards and sometimes frogs. Females give birth to live young from October through to February.

Yellow-faced Whip Snakes are dangerous to humans if provoked. They are slender snakes with a long, thin tail and large prominent eyes surrounded by an obvious pale ring. A dark streak curves back from the eye to form a distinct comma. It is bluish grey in colour with a rusty flush along the forebody and a greenish belly, often found sheltering under rocks or sheets of iron. It is active by day all year round, feeding on small lizards. The female lays approximately six eggs in early summer, sometimes in large communal nests.

The common White Crowned Snake, virtually harmless to humans, is common in compost

heaps, about 500 mm in length and is dark grey all over except for a broad white band that extends across the back of the neck and sweeps forward around the sides of the head and onto the face. This white band encloses a dark patch and gives the snake its common name of "white crowned". It is nocturnal and feeds on small skinks. Females lay an average of five eggs per clutch during spring and summer.

COLUBRIDS

The Brown Tree Snake, virtually harmless to humans, reaches 1.3 to 2 metres in length. It is pale reddish-brown above with indistinct darker cross bands on the back and sides. The belly is cream to apricot. Its body is quite slender, but its head is rather bulbous. The snake's eyes are large and protruding with vertical cat-like pupils. This is a "rear-fanged" snake with venom glands connected to fangs at the back of the upper jaw. Common in all suburbs and adjacent bushland, the Brown Tree Snake can be found coiled on rafters in buildings, narrow caves, tree hollows and foliage, and on the ground. It is an agile climber and able to extend its body across gaps between branches. If provoked, it will recoil into an S position with its head and neck, striking with an open mouth. Large individuals should be treated with caution. The Brown Tree Snake is nocturnal, feeding on lizards, bats and other small mammals, and birds. The female lays 4-10 eggs in a deep humid crevice.

The harmless Common or Green Tree Snake is an extremely slender snake with a whip-like tail and large dark eyes. Its colour can vary greatly. The back and sides can be olive, green, brown, black, or even, on rare

Green Tree Snake *Dendrelaphis punctulatus* RW

Carpet Python common throughout south east Queensland DICK HARDING

occasions, royal blue. This colour diffuses into a yellow colour with the most intense colour on the throat and lower face. The Green Tree Snake is the most commonly-encountered snake in Brisbane sometimes seen in houses or gardens but it generally avoids humans. It prefers lush vegetation near watercourses, is active by day and feeds on frogs and skinks. The female lays 6-12 eggs in summer, in a deep humid crevice or rock cavity.

PYTHONS

The well-known Carpet Python is a large snake, often 2.5 metres or more in length, seen in houses, trees, moving across yards, or coiled up asleep. Its background colour is highly variable, generally olive to brown with distinct fawn-coloured patches edged with a darker border. Carpet Pythons can be active by day or night. They feed on warm-blooded prey including rats, birds, small mammals and, occasionally, domestic pets. Attempts to eat Cane Toads are generally fatal. Behaviour can be unpredictable. Carpet Pythons do bite, causing nasty lacerations requiring tetanus protection. The female usually lays 10-30 eggs. Young hatch in mid to late summer.

BLIND SNAKES

Blind snakes are not often encountered by humans. Identification can be difficult. There are at least four species known to be found around Brisbane. The Brown-snouted Blind Snake has a slender, thread-like body and is pink in colour. It has been found under flat stones and fallen timber well-embedded in the soil. Proximus Blind Snake is more robust and grey in colour, found in termite nests, under a large flat rocks in woodland, under rotting stumps and in ant hills. The Robust Snake has purplish-black back and sides with an abrupt border with yellowish under-side and belly, found under rocks and timber lying flush with the ground. The Blackish Blind Snake is the largest Australian blind snake. The back and sides are purplish grey or brown, grading evenly on the lower sides to a white belly. It shelters under flat rocks, embedded timber, in the soil and under leaf litter.

IDENTIFICATION & SAFETY INFORMATION

Wildlife of Greater Brisbane is an excellent starting reference with concise information and clear graphics. In the event of a suspected snake bite, it is important to obtain clear identification of the type of snake involved. Treatment should be sought from ambulance staff (phone 000) or qualified first aiders. Prudent bush lovers will keep handy a small first-aid kit including basic snake bite treatment information.

Mammals

Mammal diversity and abundance has been greatly reduced in urban areas. Wallabies and kangaroos are rare. Bandicoots survive in some of the larger open forest remnants, evident by their diggings, shallow triangular scrapings on the soil surface. The Long-nosed Bandicoot is common in the Sparkes Hill Reserve and upstream in forest remnants, where they are active at night and shelter under Lantana thickets and other shrubs during the day. Bandicoots are usually tick-infested, the ticks are a health risk to humans.

Wallabies are present in the upper reaches of Cedar Creek near Mt Nebo and in the Enoggera Barracks (upper reaches of Sandy Creek).

Brushtail Possum *Trichosurus vulpecula* Brisbane City Council

Possums

The Brushtail Possum is able to utilise food (fruit and ornamental species) and nesting resources (building eaves and roofs) within the urban landscape. This species is widespread and can move around the suburbs via powerlines.

The Ringtail Possum is less common; it prefers greater connectivity of the tree canopy than the brushtail, and is therefore less able to adapt to the urban landscape.

Bats

Bats are able to find food and nesting sites in the urban landscape. Three groups can be identified: fruit bats, blossom feeding bats and insectivorous bats.

Fruit bats (flying foxes) feed in vegetation along Kedron Brook and on garden trees in surrounding urban areas. They visit Brisbane in the summer months and roost in large groups.

Of the eleven main roosting areas in Brisbane one is situated on Sparkes Hill. Minor camps include Kalinga Park. The most common is the Black Flying Fox, but Little Red and Grey-headed Flying Foxes are also present.

Blossom bats feed on flowering trees including eucalypts and paperbarks. Larger trees provide a more plentiful food resource. These bats are important pollinators.

Insectivorous microbats are small, swift and feed at night. They are sometimes detected by a shadow around a light or by high-pitched clicking sounds. Kedron Brook is an important feeding habitat for microbats. Insects emerging from the water are a rich food source. Microbats are considered important in the control of many insect pests including mosquitoes in mangrove areas. Insectivorous bats nest in tree hollows.

Black Flying Fox *Pteropus alecto* CC BY James Niland

Bat boxes at Wahminda Grove RW

Birds

Waterbirds

Waterbirds include ducks, waders and species associated with the littoral zone. The mouth of Kedron Brook, adjacent Boondall Wetlands and Moreton Bay are internationally-significant breeding grounds. Migratory birds such as Whimbrels and Sharp-tailed Sandpipers gather in large numbers on the margins of Moreton Bay to feed. Few of these migratory species venture upstream along Kedron Brook.

Birds including White-faced Heron, Little Egret and Royal Spoonbill feed along sections of Kedron Brook which provide useful wildlife habitat.

Stream margin species

Species commonly encountered along the channel include the White-faced Heron, Pacific Black Duck, Dusky Moorhen and several egrets.

Insectivorous birds nest in reeds or grasses. Cisticolas and warblers occupy Bulrush *Typha orientalis* or Para Grass-dominated areas.

On the drier margins finches, wrens and quail inhabit dense grass, having been observed in grassland adjacent to Grange Forest Park and in overhanging Lantana thickets and other vegetation in the upper catchment.

Forest birds

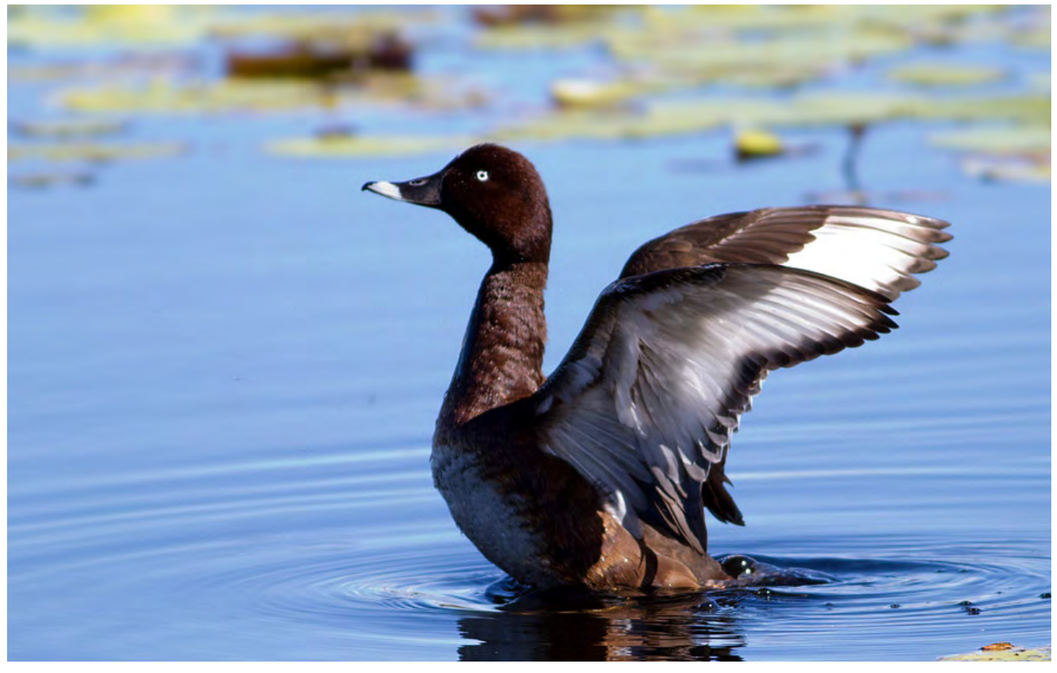
Many forest birds are able to use open parkland and urban gardens to feed and nest. A number of forest birds prefer dense cover and would have once taken refuge in the understorey of dense forest or shrubby thickets. They are now less common in the landscape due to a lack of habitat. Silvereyes are still seen in some gardens and in thick vegetation remnants along Kedron Brook.

Species of forest birds that have declined in the urban landscape include Bush Stone-curlew, finches, some honeyeaters, wrens, treecreepers, robins, flycatchers and babblers.

Hollow nesters

Parrots, lorikeets and rosellas find plenty of food resources in the urban gardens and public parklands but the number of tree hollows available for nesting possibly limits numbers. Different-sized and shaped hollows are required for different species. Bees, bats, possums, tree snakes, skinks and lizards also use the hollows. Nesting boxes have been placed in many parklands to provide additional hollows.

Hollow nesting birds recorded from Kedron Brook include Rainbow Bee-eater, Galah, Pale-headed Rosella, Rainbow Lorikeet, Eastern Rosella, Dollarbird, Scaly-breasted Lorikeet, Sulphur-crested Cockatoo. Introduced Indian Mynahs have been seen evicting native birds to occupy nesting boxes.



Hardhead *Aythya australis* above and below Little Egret *Egretta garzetta* GEOFF WALKER

Migratory birds visiting the estuarine parts of the Brook, left and below left Whimbrel *Numenius phaeopus* on the wing, and wading. Below Sharp tailed Sandpiper GEOFF WALKER Other waders include Bar-tailed Godwit, Eastern Curlew, Common Greenshank, Common Sandpiper, Grey-tailed Tattler, Great Knot, Red Knot Curlew Sandpiper, Pied Oystercatcher, Black-winged Stilt, Pacific Golden Plover, Lesser Sand Plover, Greater Sand Plover, Double-banded Plover and Masked Lapwing.

Raptors and owls

Freshwater habitats provide a rich food resource for raptors and owls.

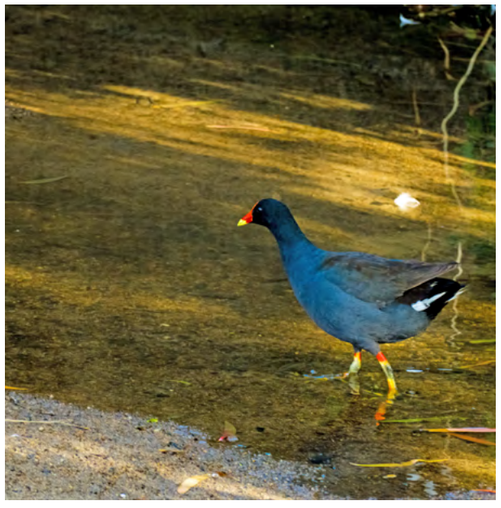
Mudflats and grassland areas at the mouth of Kedron Brook are the only known breeding and roosting location for grass owls in South East Queensland. Little is known of this bird. Protection of its existing habitat is paramount.

Frogmouths roost in forest remnants and are occasionally recorded in gardens. Sea eagles, whistling kites, osprey, brown falcons and the Nankeen Kestrel have all been recorded patrolling Kedron Brook from above.

Extensive undeveloped land around Brisbane Airport and Boondall Wetlands has been identified as significant nesting and roosting areas for raptors

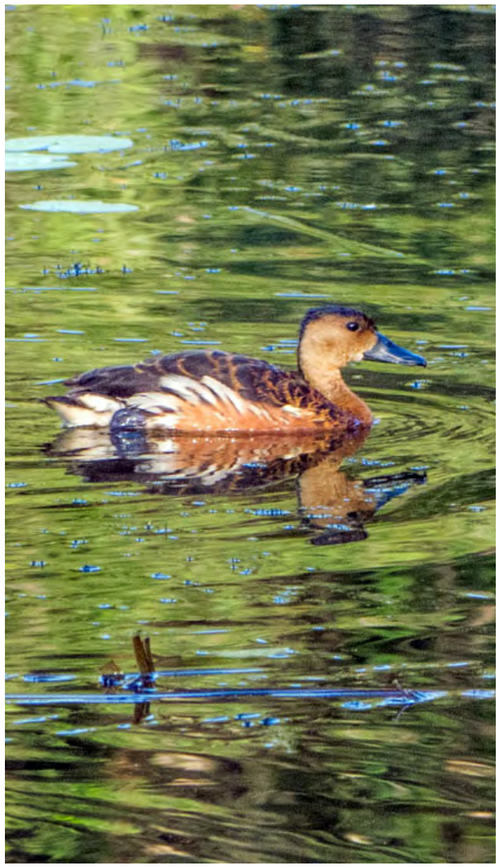
Pink-eared Duck *Malacorhynchus membranaceus* to human eyes, an extremely odd-looking duck
GEOFF WALKER

Pacific Black Duck *Anas superciliosa rogersi,* Dawson Parade, a common dabbler in south east Queensland waterways RW



Dusky Moorhen *Gallinula tenebrosa* at Camoola Street bushcare site RW

Wandering Whistling-duck *Dendrocygna arcuata*
KBCBW



Striated Pardalote *Pardalotus striatus*, catches insects on the wing, tunnels into soft earth to make a nest RW

Double-barred Finch *Taeniopygia bichenovii* RW

Above Royal Spoonbill *Platalea regia* GEOFF WALKER Below left Little Corella *Cacatua sanguinea*, Brook Park RW Below right Tawny Frogmouths *Podargus strigoides* KBCBW

Sacred Kingfisher *Todiramphus sanctus* DEBORAH METTERS

Projects

Bird observations

Since 2008, at least ten bird walks have been conducted each year in set locations selected as being representative of bird habitats along Kedron Brook.

This project aims to accumulate data on bird life along the Brook, specifically those variations in birds species noted together with their distribution.

A similar program has been set up each year but it is based upon a randomization of the actual sequence of the locations to be visited over the year. This step is to minimise any seasonal effects on the number and type of birds species to be found at a particular location. The apparent absence of a particular species of bird at such a location for one or so years may possibly be explained by a migration influence.

Although a number of catchment members are experienced birders, the leadership of Dawn Muir, supported by Esther Townsend (both experienced birders) within Birds Queensland has been vital. Their contributions to the success of this project have been most appreciated.

Birders at Cedar Creek at Upper Kedron in 2016, 42 species of birds were found that morning
KBCBW

Powerful Owl Ninox strenua, Australia's largest owl Geoff Walker

Top row left Masked Lapwing *Vanellus novaehollandiae* often defending young in open areas GEOFF WALKER right Black-fronted Dotterel *Elsyornis melanops* a sighting creating considerable interest at Grange Forest Park in August 2015 KBCBW Middle Red-backed Fairy Wren *Malurus melanocephalus* often heard, extremely elusive, a small bird active in thick cover. Below Grey Butcherbird *Cracticus torquatus* One of the more commonly seen birds of the Kedron Brook Catchment, with a musical song, also capable of harsh sounds in mimicry
GEOFF WALKER

Noisy Friarbird *Philemon corniculatus*, commonly seen and heard foraging for nectar in Grevilleas and flowering Eucalyptus. Below Olive-backed Oriole *Oriolus sagittatus* difficult to sight but common in woodland, eucalypt forest, paperbarks and tall shrubbery, mostly noticed by its bubbling musical song
GEOFF WALKER

Above Black-faced Monarch *Monarcha melanopsis*, a highlight when spotted in the picnic area at Wahminda Grove in October 2011, below Restless Flycatcher *Miagra inquieta* seen in open forest, farmland and scrub, hovering over grass, shrubbery and trees emitting a peculiar rising series of metallic grinding noises "Krzzzrk! Kzowk! Kziok! Kzeek!" Geoff Walker

Australian Reed Warbler *Acrocephalus australis*, sighted at Osborne Road March 2014 along with a Golden-headed Cisticola *Cisticola exilis* and a Tawny Grassbird *Megalurus timoriensis*
Geoff Walker

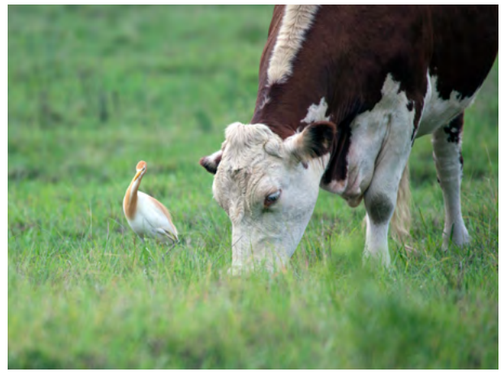
Golden Whistler *Pachycephala pectoralis* conspicuous in spring when brightly coloured males call loudly. Below Grey Fantail *Rhipidura albicscapa*, one of the best known small birds, making squeaky scratchy sounds, rarely still, catching insects on the wing GEOFF WALKER

Scarlet Honeyeater *Myzomela sanguinolenta,* males in mating plumage are stunningly beautiful and are plentiful in season ADAM MAUND

Bar-shouldered Dove *Geopelia humeralis* a ground feeder in open areas near cover. Below Blue-faced Honeyeater *Entomyzon cyanotis* GEOFF WALKER

Above Black-faced Cuckoo-shrike *Coracina novaehollandiae*, commonly encountered in Kedron Brook catchment GEOFF WALKER Below male Australian Brush-turkey *Alectura lathami,* one of the beneficiaries of urbanised habitat, frustrating to many gardeners RW

The magnificent Yellow-tailed black cockatoo *Calyptorhynchus funereus*. In flight, yellow-tailed black cockatoos flap deeply and slowly, and with a peculiar heavy fluid motion. Their loud eerie wailing calls carry for long distances. Below the ubiquitous nuisance bird, the Noisy Miner *Manorina melanocephala* a bird in the honeyeater family, Meliphagidae, a beneficiary of the open spaces and edges made by humans and perhaps considered too harshly by people who could reduce its numbers by planting more forest. Neil Fordyce



Above left Brahminy Kite *Haliastur indus* or Red-backed Sea-eagle a medium-sized bird of prey. Geoff Walker Above right a singular example of cattle with a Cattle Egret, a cosmopolitan species in the tropics, subtropics and warm temperate zones. Despite the similarities in plumage to the egrets of the genus *Egretta*, it is more closely related to the herons of *Ardea*. Neil Fordyce Middle Mistletoebird *Dicaeum hirundinaceum*. Geoff Walker Below Crested Pigeon *Ocyphaps lophotes* found widely throughout mainland Australia except for the far northern tropical areas. Neil Fordyce

Restoring corridors

The Kedron Brook catchment, including the Cedar Creek tributary, contains significant assets and opportunities for the conservation of biodiversity and water-quality value.

The Restoring Corridors Project provided support to landholders and community groups to implement land management activities to support the protection and conservation of these values. Kedron Brook Catchment Branch was the recipient of a grant in late 2007 from SEQ Catchments that enabled the branch to provide advice and financial assistance to landholders and community groups. 150 expressions of interest were received and 29 were funded.

Applicants were assessed according to the aims of the project, to

- establish and support an informal network of lands under management for nature conservation outcomes
- implement weed management strategies in areas of biodiversity significance within the Kedron Brook catchment
- improve the condition of existing riparian vegetation in the Kedron Brook catchment via weed management
- restore riparian vegetation in strategic locations in the upper catchment where there is none
- improve the stability of waterway banks within the Kedron Brook catchment through the maintenance and restoration of bank vegetation
- improve waterway condition through the management of livestock access to the waterway corridor.

Nearly all funds were used for erosion control, weed control and revegetation of locally-native species. Overall the project was very successful. There were certainly challenges along the way, namely the storms and heavy rains of late 2008 and May 2009, brush turkeys, and changing Catchment Coordinators or Creek Rangers.

On top of the project goal of restoring ecological corridors in the upper catchment, the project has also had the exciting outcome of increasing landholder interest in their bushland backyards. Many landowners are committed to ensuring the ongoing protection and enhancement of the bushland on their properties, especially along waterways.

One of the landholders assisted was Gail from Upper Kedron who was able to deal with a Lantana problem on her property and restore a cleared area which had been an angora goat stud, since overgrown with weeds.

Gail also attended a Managing Fire and Native Vegetation Workshop, learning about the different strategies of managing the fire risk.

Gail said “This grant has afforded me a wonderful opportunity to practice weed control, revegetate, to be further educated, and given me the motivation to carry it out.”

Laughing Kookaburra *Dacelo-novaeguineae* at Cedar Creek, Ferny Grove RW

Bushland creating corridors along Cedar Creek. Protecting and maintaining corridors is vital for ecosystem health RW

Bob Cassimaty Park

As part of the railway upgrade from Ferny Grove to Keperra over 2010-2012, Queensland Rail committed to working with local bushcare organisations and groups to enhance habitat in Bob Cassimaty Park, resulting in a four-stage plan to plant more than 3,300 native plants and trees. This helped to replace various native trees and vegetation lost in severe storms and reduced the overall impact of the railway station and car park upgrade.

The Men of the Trees group, which had worked for many years to re-establish bushland areas around Ferny Grove, enthusiastically agreed to come on board to assist with the plantings. Other community assistance came from Wahminda Grove bushcare group and individual volunteers.

The first stage of plantings on 15 October 2011 was followed up on Saturday 21 January 2012 with further plantings on Saturday 3 March 2012, Saturday 5 May 2012, Saturday 2 June 2012 and a final mass planting on Saturday morning 23 June 2012, ending with a late morning tea and sausage sizzle.

Volunteers at the first stage of the Queensland Rail Habitat Rejuvenation Project,15 October 2011 KBCBW

Opposite Cassimaty Park revegetation in 2017, part of the extensive rehabilitation work carried out by volunteers at Bob Cassimaty Park AJ

Powerlink and Wahminda Grove

The association between Powerlink and Wahminda Grove bushcare group began in 2008 after Powerlink's purchase of land along Kedron Brook at Ferny Hills, adjacent to the group's bushcare site. The land was severely degraded, dominated by invasive weeds threatening the adjoining rehabilitated sections of the Council reserve.

Powerlink set the land aside for a sub-station, but only a portion of the property was suitable for this purpose. Powerlink agreed to a proposal from Pine Rivers for the bushcare group to revegetate a section along the top of the creek bank. Over the next 12 months, the group successfully removed Lantana and other weeds, restoring the habitat with native species, with Powerlink covering the cost of mulch and plants.

In September 2010 Brisbane City Council and the Wahminda Grove bushcare group applied to rehabilitate an additional and much larger portion between the future sub-station and the creek. In July 2011 Powerlink funded a $20,000 three-year bushland habitat restoration project.

… a rare opportunity to rehabilitate a large area of urban bushland, bringing significant environmental benefits…

In late 2011 an environmental restoration contractor was employed to treat weeds with herbicide and to cut out large weed trees. Areas above flood level were mulched. After accidental damage to the site Powerlink provided an additional $10,000 for contractor work to tackle high priority weeds, resulting in significant progress over the next 3 to 4 months.

In February 2012 the bushcare group was able to start planting the first stage, continuing over the next 12 months. In 2013 and 2014 the group continued weed control and in-fill planting to improve stabilisation of the creek bank, taking the total number of native plants to around 4,000.

Watering thousands of plants was challenging. Long, hot, dry periods took their toll. However, despite the difficult weather, transformation from a weed-ridden eyesore to native bushland happened surprisingly quickly. The partnership with Powerlink provided a rare opportunity to rehabilitate a large area of urban bushland, bringing significant environmental benefits by providing quality habitat for wildlife and improving the water quality of the upper catchment.

Wahminda Grove planting, January 2014
KBCBW

Kedron Brook at Wahminda Grove 2017 AJ

Education initiatives

Down at your local creek was a special project in 2007-09 aimed at upper primary students from schools in the Kedron Brook catchment. An interactive program provided students with an opportunity to learn about and protect their local waterway environments. A classroom session was facilitated either by a Kedron Brook Creek Ranger, a Kedron Brook Catchment Branch educator, or a teacher, while the outdoor activities were facilitated by educators with experience in waterway monitoring.

The *Down at your local creek* program and continuing activities encourage communication, coordination and education of those who live in, manage and influence the catchment, locally relevant and interesting to students in a structured and consistent way.

At an *Environmental Education Expo* in 2002 Don Gibson, Buranda State School, Jenny Leask, Habitat Brisbane, Brisbane City Council and Chris Milne, Ferny Grove State High School presented *Ideas for practical school projects*. These included creating habitat for frogs, maintaining a worm farm with tuckshop scraps, involvement in Clean Up Australia Day, Weedbuster Week and Arbor Day, helping out local bushland groups, creating revegetation areas and permaculture gardens and inviting Habitat Brisbane officers into classrooms.

Below Creek Ranger Adam with his daughter Lily at a planting Save Our Waterways Now.

Opposite Pale-headed Rosella Deborah Metters

Frog Projects

In January 1998 the Queensland Frog Society was successful in obtaining a grant to assess and monitor frog habitat sites.

Fourteen sites were chosen. They featured differing landscapes, varying water flow and quality and a mix of vegetation densities and types.

Assessment of each site, two along Kedron Brook, was followed by monitoring of frog species and numbers after modification, with the aim of generating guidelines for frog habitat design.

Janet White reported on the Kedron Brook sites.

Hickey Park

Hickey Park in Stafford Location **UBD MAP 139 M6** was being managed to increase the local frog population by providing temporary ponded water enabling *Litoria* and *Limnodynastes* species to breed.

The site, on a tributary of Kedron Brook, was identified as potential frog habitat in 1996. During rain, detergents, oils, paints and debris had been observed. Despite this a colony of Tusked Frogs *Adelotus brevis* was present. It was decided to bund the drain, at two levels, to retain water long enough for tadpoles to complete their metamorphosis to frogs.

Striped Marsh Frog *Limnodynastes peronii* a common species in urban habitats. Breeding males develop thick arms, used in "wrestling" matches with other frogs RW

Eastern or Dwarf Sedge Frog *Litoria fallax* RW

Wooden bollards were installed to prevent mowing of the area. An interpretive sign was positioned near the bicycle path. Plantings were held in mid 1997.

Local Scouts and Guides were involved in plantings. After the changes observations included calls and sightings of Eastern or Dwarf Sedge Frog *Litoria fallax*; Striped Marshfrog *Limnodynastes peronii*; and Tusked Frog *Adelotus brevis*.

Harvton Street, Stafford

Harvton Street, Stafford **UBD MAP 139 K9** was changed to increase water retention, with adjacent plantings for protection. The site had been identified in 1996 as a frog-breeding site. A small, almost permanent, pool existed upstream from the bicycle path.

There had been sightings of Eastern Sedge Frog, Striped Marshfrog and the call of the Graceful Treefrog had been heard.

In October 1997, the banks of the drain were battered back to make them less steep. Below the bicycle path, a small meander with baffles was put in the drain, to slow the passage of water. Wooden bollards were erected around the site to prevent mowing.

Youth Enterprise Trust graduates cleared weeds, prepared the ground for planting and spread mulch. The pool became more shaded and hidden and developed a good invertebrate fauna.

Above Hickey Park Frog Habitat JANET WHITE

Below Scarlet-sided Pobblebonk *Limnodynastes terraereginae* ADAM PARSONS

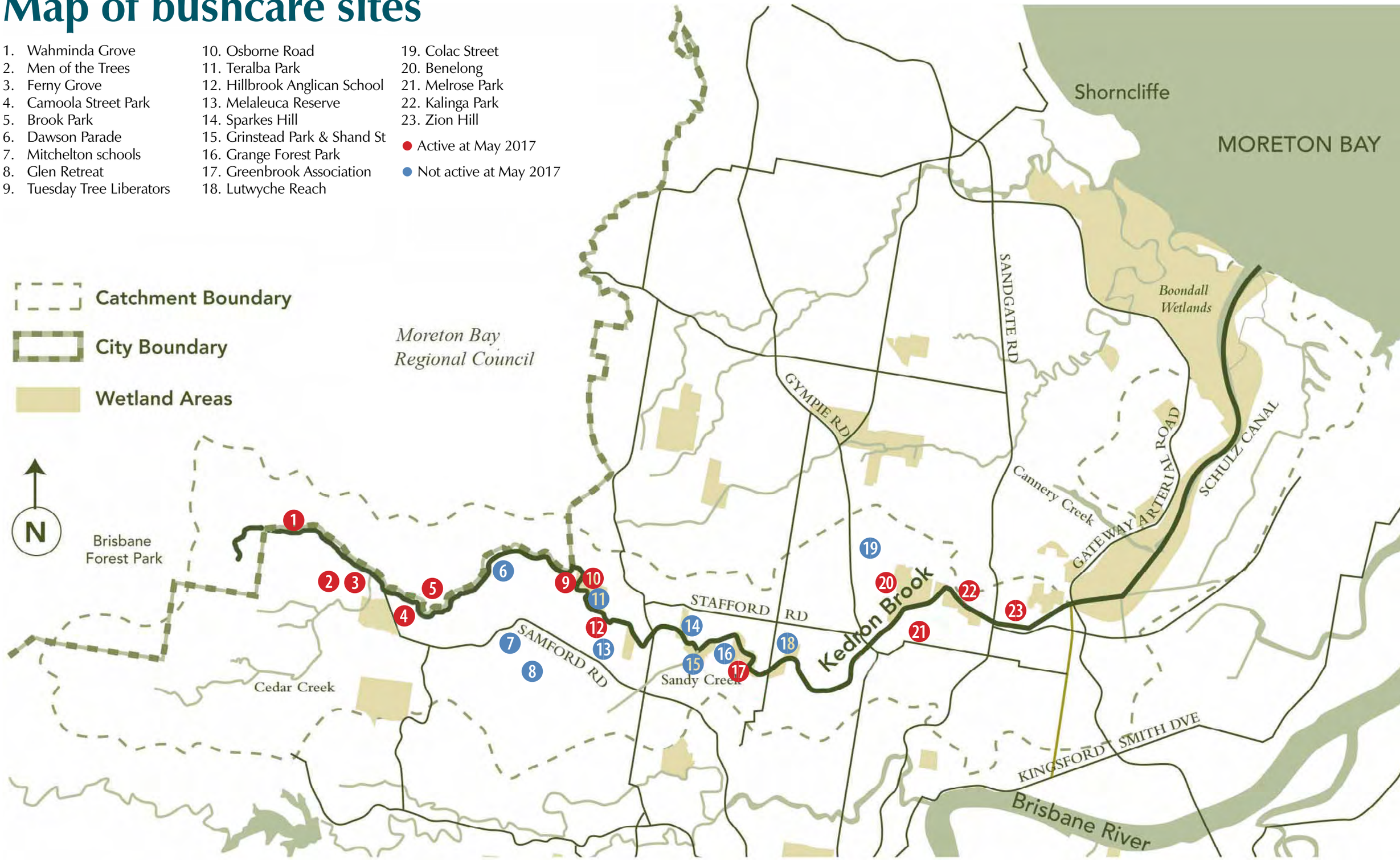
Frogs previously reported in the Kedron Brook Catchment, not found in the 2007 survey, included opposite page top Great Barred-frog *Mixophyes fasciolatus* opposite below Spotted Marshfrog *Limnodynastes tasmaniensis*.

This page above Green-striped Frog *Cyclorana alboguttata*, right Eastern Gungan *Uperoleia laevigata* and below Broad-palmed *Rocketfrog Litoria latopalmata* Adam Parsons

Map of bushcare sites

1. Wahminda Grove
2. Men of the Trees
3. Ferny Grove
4. Camoola Street Park
5. Brook Park
6. Dawson Parade
7. Mitchelton schools
8. Glen Retreat
9. Tuesday Tree Liberators
10. Osborne Road
11. Teralba Park
12. Hillbrook Anglican School
13. Melaleuca Reserve
14. Sparkes Hill
15. Grinstead Park & Shand St
16. Grange Forest Park
17. Greenbrook Association
18. Lutwyche Reach
19. Colac Street
20. Benelong
21. Melrose Park
22. Kalinga Park
23. Zion Hill

- Active at May 2017
- Not active at May 2017



Our people and their sites

On the following pages, bushcare sites are listed geographically from the headwaters down to Moreton Bay.

Volunteers of all different ages and levels of fitness work towards preserving some of Brisbane's greatest assets, the waterways, parks and bushland, by restoring fauna and flora habitat. A concern for the environment is all that is really necessary.

Brisbane has the highest diversity of mammals and birds of any capital city in Australia. This is largely due to its wide range of vegetation types and habitats. Bushland remnants act as lungs for the city. They make the city a nicer place to live, giving us some idea of the area before human use.

Volunteers undertake administration, hands-on planting and weeding, and make contributions of specialized knowledge of plants and wildlife.

Strategies include revegetation, weed control programs, planting of wildlife-friendly native plants and increasing knowledge and practical skills through events or activities.

While most of the groups operating in the Kedron Brook catchment are part of the Brisbane City Council Habitat Brisbane program, Brook Park bushcare group operates fully within the Moreton Bay Regional Council area and Wahminda Grove bushcare group works on an area shared by the Brisbane City Council and Moreton Bay Regional Council.

Men of the Trees is a community organisation that works to plant, tend and nurture the development of trees in northern catchments of Brisbane City and the Moreton Bay areas and elsewhere.

Most bushcare groups meet on the weekend once a month though small groups generally have more flexible arrangements and adapt to availability of members and the season.

To find a suitable group visit www.kedronbrook.org.au.

Kedron Brook catchment is in Habitat Brisbane's north and west areas. Brisbane City Council's Habitat Brisbane program is a community-council partnership.

Habitat Brisbane objectives include

- increased biodiversity through community efforts to protect and restore flora and fauna habitat
- increased community awareness of values, threats and management needs through direct participation and communication with others
- increased sense of community fostered through the ownership, achievement and community pride created by participants joining together.

Habitat Brisbane provides a wide range of support services to bushcare groups and their members by providing technical assistance and support by habitat officers; supplying native plants and equipment; advising on the challenges of individual bushcare sites; providing habitat educational programs, seminars and meetings to keep bushcare groups informed; and providing opportunities to network with other bushcare groups.

Wahminda Grove, Ferny Grove RW

Wahminda Grove

The Wahminda Grove bushcare group is rehabilitating the upper reaches of Kedron Brook where it runs through Samford Conservation Park. The site is off Samford Rd, just west of Ferny Grove near the scouts and guides halls in Wahminda Park **UBD map 117 F17**, close to several popular recreational areas. Maureen Lawrence Park is just west of the site, and Lomandra Gully and Ironbark Gully picnic areas are on the opposite side of Samford Road.

The site has become a popular choice for a stopping point in Kedron Brook catchment tours, to enjoy the natural atmosphere at the edge of D'Aguilar National Park.

This work area is the closest to the source of Kedron Brook. The creek at this location forms part of the boundary between Brisbane City and Moreton Bay region. The name of the group reflects both regions with "Wahminda" taken from Wahminda Park in Moreton Bay region and "Grove" from Ferny Grove in Brisbane. Bushland rehabilitation has been undertaken on both sides of the waterway.

The inaugural working bee was held on 28 July 2001. Formation of the group was initiated by Lyn Lutz and supported by Brisbane City Council based on a five-year plan by Lyn for rehabilitation of a section approximately 750 metres in length. About a year later the leadership role was passed to Ray and Di Loughrey who at the time were responsible for heading up another bushcare group at Dawson Parade Arana Hills.

Subsequently a working relationship was also established with the former Pine Rivers Shire Council, and both councils continue to support the group with the supply of equipment, plants, advice and training.

At the beginning of 2011, leadership was passed onto Lyn and Ann Ellerman.

A significant variety of native vegetation still exists in this part of Kedron Brook, albeit infested by weeds in many places. Despite the weeds, it is a beautiful natural area and the region is well worthy of restoration. In the areas where weeds have been removed, native habitat has re-established itself through natural regeneration.

The area supports a wide variety of native birds, with an increase in numbers and species observed over the years as the native vegetation and habitat has been restored. To date, over 80 different bird species have been identified. It is now common to hear Whipbirds calling during working bees.

Kedron Brook at Wahminda Grove in 2017 RW

Maintenance of bank erosion control at Wahminda Grove in 2013 KBCBW

Di Loughrey and Ann Ellerman KBCBW

Large lizards such as Eastern Water Dragons and Lace Monitors occur, with Green Tree Snakes and Carpet Pythons seen quite regularly. Koalas still exist in this area.

Challenges

Large areas of the site were once dominated by Lantana, with numerous other weeds such as Ochna, Guinea Grass, Cobblers' Pegs, Easter Cassia, Wild Tobacco, Asparagus Fern, Blue Billy Goat Weed, Mistflower and Mother of Millions also in abundance. Aggressive, invasive vines such as Glycine, Madeira and Velcro Vine are prevalent in the area.

Escaped garden plants have appeared as a result of irresponsible dumping of garden waste.

Over the years the weather has provided many challenges, particularly the long periods of drought followed more recently by violent storms and floods which caused major damage to trees and severe bank erosion. During times of heavy rainfall, erosion problems are amplified by stormwater feeding into Kedron Brook from residential areas on the Ferny Grove side of the waterway.

Despite these difficulties and setbacks, the group has seen major achievements transforming significant sections of the site back to natural bushland.

Regular activities

Primary activities involve removing weeds and rubbish (including car bodies) and planting native species.

Lantana is recycled as mulch and wigwam structures which provide hideaways for small birds.

Stabilisation of the creek bank is a priority, and large trees along with hundreds of native Matrush have been planted along the creek bank to reduce erosion.

Over the years the creek crossing has been cleared. A pathway lined with Matrush is now part of a popular walkway through the area for recreational use.

Thousands of native plants have been planted, many propagated by members of the bushcare group, with butterfly host plants and other wildlife-friendly plants a priority.

Special projects

The Wahminda Grove bushcare group is responsible for a large bushland restoration project funded by Powerlink on their Ferny Hills sub-station site. This severely degraded site was infested with weeds.

The initial restoration of a section of the property along the top of the creek bank took place in 2008-09 followed by a three-year project funded by Powerlink's Community Awards Program. Large scale weed treatment and mulching was done in late 2011. The bushcare group planted around 4,000 native plants from 2012 to the end of 2014 (see Projects on page 68).

Banana Bush *Tabernaemontana pandacaqui* at Wahminda Grove 2017. Banana Bush is an important component of remnant dry rainforest lining Brisbane Creeks. The fruit and sap of the Banana Bush is highly toxic to humans RW

Opposite The popular walking trail through the restored habitat along the waterway behind the scouts hut and guides den RW

Brown Kurrajong *Commersonia bartramia* fruit with seeds, a fast growing tree useful for establishing quick canopy favoured by local insects RW

Kedron Brook with lush growth and signs of serious erosion at Wahminda Grove. Stormwater flow is capable of amplifying water volume and velocity to dangerous levels, far beyond natural flood flow RW

Kangaroo Vine *Smilax australis* If you don't know it's there, you soon will. It grabs you RW

Richmond Birdwing Vine *Pararistolochia praevenosa* critical for the Richmond Birdwing Butterfly RW

Planting and erosion control at Wahminda Grove AJ

Men of the Trees

Men of the Trees has a long history of activity along Cedar Creek and Keperra Park at Ferny Grove in Kedron Brook catchment. In 2010-11 both of these sites suffered from storms and flooding when mature trees and creek banks were severely damaged.

In September 2011, Men of the Trees became closely involved with the Queensland Rail habitat enhancement project at Bob Cassimaty Park Ferny Grove (see Projects on page 68).

Over recent years, the group has carried out revegetation and habitat maintenance at Thomsett Park Ferny Hills, Arbor Street Park Ferny Grove, Camoola Street and Keryn Place Parks Keperra.

Men of the Trees works hard to maintain a well-organised and sociable organisation, and to provide a loyal group of volunteers enjoyment and satisfaction as they continue to maintain and protect trees in the South East Queensland region.

Cedar Creek

Cedar Creek, a major tributary of Kedron Brook, drains parts of D'Aguilar National Park, Upper Kedron, the northern slopes of Camp Mountain and Ferny Grove. It joins with Kedron Brook at Bob Cassimaty Park eventually emptying into Moreton Bay.

The main area being revegetated and maintained is north of Tramway Street Ferny Grove along the eastern banks of Cedar Creek **UBD Map 137 M2**. The western bank of the creek adjacent to Arbor Street Park is maintained by Ferny Grove bushcare group.

The upper reaches of Kedron Brook were described: "Large eucalypts overhung the water. Their roots penetrated deep into the banks and even under the creek. Stands of blue gum and spotted gum, along with bloodwood and stringy bark, grew adjacent to the creek. Casuarina trees and narrow leaf wattle, which bloomed in August and loaded the air with a nutty gorse-like scent, studded the flood plain. The narrow leaf tea-tree grew among the wattle and flowered in early November. Its crushed leaves smelled like thyme. Violet-blossomed Sarsaparilla *Hardenbergia violaceae* trailed across the ground in swathes seven metres long. Purple-flowered *Hovea* blossomed in late winter. Ground orchids grew there as well. Butterflies, imperial blues and occasionally a Richmond Birdwing (one of Australia's largest and most colourful butterflies), flitted between sun and shade.

"Red-crowned pigeons, golden-bronzed cuckoos, Kookaburras, a variety of waterbirds, including herons, egrets, spoonbills, water fowl and ducks, and between September and April, the migrating Rainbow Bee-eaters, which nested in metre long tunnels dug into the bank or bare ground, and other birds of the Australian bush gathered by the stream. Black Bitterns foraged along the creeks edges and perched on rocky outcrops. Colonies of flying foxes hung from the trees over the brook and fed on native blossoms.

"Overhanging trees added leaf litter to the creek, which became food for yabbies, dragonfly larvae, mussels, and insects. Frogs croaked their mating calls after the first heavy rains. Tadpoles appeared. Turtles, bobbing in the water or sunning themselves on logs and sandbanks, were common. The web-footed water rat and the platypus burrowed in the banks and fished the stream bed for freshwater shrimp. The cool depths of the deep pools harboured native fish, freshwater cod, catfish and Gudgeons. The most colourful form of the Crimson-spotted Rainbowfish came only from the Kedron Brook. In season, mullet swarmed upriver. The mullet, large eels, freshwater prawns and lobbies (species of crustacean), as well as pigeon and duck, provided food for hungry out-of-work families and sport for boys and girls."

Keryn Place, Keperra RW

Some of the plants and animals in upper reaches of Kedron Brook in 1930, described by William J Lines on the previous page.

This page top left *Casuarina* sp., right *Hardenbergia violaceae* RW second row left *Hovea acutifolia* RW, right hanging bats AJ third row Richmond Birdwing Butterfly *Ornithoptera richmondia* DON SANDS

Facing page top row left Crimson-spotted Rainbowfish males GUNTHER SCHMIDA right Freshwater Eel *Anguilla reinhardtii* RW second row Dragonflies left Fiery Skimmer *Orthetrum villosovittatum* right Scarlet Percher *Diplacodes haematodes* RW third row left Australasian bittern *Botaurus poiciloptilus* GEOFF WALKER *right* Purple-spotted Gudgeon *Mogurnda adspersa* RW

Cedar Creek

In late 2000, local residents Tristan Peach and Andrew Burrows started the Cedar Creek bushcare site by planting a single hoop pine next to a Lantana-infested creek bank. Inspired by the work of Christine Milne and Ferny Grove High School students further up the creek, they soon had the bushcare bug and spent many afternoons weeding and planting native plants in an unplanned but enthusiastic manner.

They sourced their native plants from the Greening Australia nursery at The Gap, and this is where Andrew met Fran Gilje from Men of the Trees. This would prove to be a valuable connection. As work progressed in 2001, Andrew and Tristan were approached by Council parks officers and offered assistance under the Council bushcare program. They also received unofficial assistance from neighbours and friends as well as from Derek, a retiree from Keperra.

The pair became more organised with their activities and began to hold working bees. The site was now expanding around the bend in the creek to a huge Madeira Vine infestation. Council Habitat Officer Jenny Leask organised for this area to be excavated so that Madeira Vine tubers buried deep in the soil could be removed. After the excavation a big planting day was organised.

Despite the increased energy and resources being invested in the site, the Madeira Vine problem persisted and floods badly damaged some sections. In 2006, as both Tristan and Andrew were no longer living in Ferny Grove Men of the Trees took over management of the site.

The riparian zone of Cedar Creek is relatively healthy compared to other urban creeks, but is still degraded compared to its natural state, segments having been cleared and prone to weed invasion.

Over 250 plant species have been recorded from the upper catchment of Kedron Brook. The drier hills contain eucalypt forest, while gallery rainforests containing *Waterhousea floribunda* and figs occur along the creek.

Keperra Picnic Grounds site RW

Fran Gilje weeding at the Keperra Picnic Grounds KBCBW

Keperra Picnic Grounds

Keperra Picnic Grounds at the junction of Upper Kedron Road and Samford Road, is just within the suburb of Ferny Grove **UBD map 137 N6**. It runs along the western side of Samford Road and up the hill to a large elevated sports ground area.

For many years, there was a large waste dump on this hill, now closed and covered with soil. The reclaimed land has sports areas, mainly situated on top of the hill. The revegetation area is near the road junction.

The general bushland here consisted mainly of open eucalypt forest with some denser growth along Cedar Creek up towards Upper Kedron. The expansion of Samford Road from two lanes into four in 2005 cut out a large number of the eucalypts along both sides of the road.

Late in 2008, a series of huge storms cut through a wide area of housing and bushland from The Gap through Keperra, Ferny Grove and Arana Hills, felling many mature trees, ripping off branches and stripping leaves. Men of the Trees recognised the importance of a succession of fresh plantings to renew the natural habitat for wildlife and bring back the forest atmosphere.

Keryn Place, Keperra

In 2013-14 Men of the Tress received a Brisbane City Council Environmental Grant for a creekside restoration at Keryn Place Park at the corner of Keryn Place and Mungarie Street.

This park was chosen in particular because the small creek at the rear of the park directly adjoins the wildlife corridor of Keperra Bushland. Planting was planned for 1,200 trees and understorey plants, including ground covers and *Lomandra* spp.

The first planting on National Tree Day 2014 was a great success, supported by Habitat Brisbane, Camoola Street bushcare group, Dera Sacha Saudha Australia and the local community. Over 120 volunteers attended the event including a number of children and their families.

Restoring the vision

Restoring the vision seen in earlier days is the aim for revegetation of Cedar Creek and Keperra Picnic Grounds. Increasing the health of Cedar Creek through replanting of the creek banks and attempting to control and limit the effect of the weeds will in turn help restore greater ecological integrity and more habitat and natural values.

Increasing the shade over the creek and reducing erosion will improve the water quality in Cedar Creek, Kedron Brook and Moreton Bay.

For more information about Men of the Trees go to www.mottqld.com.au.

Ferny Grove

The Arbor Street Park project started in 1994. A small group of students, having entered a competition to establish a permaculture garden, approached Brisbane City Council for permission to use the park. This involved removing an enormous amount of Lantana.

A few years later the school began using the park for education of their students and to set up community revegetation days for the local community.

An offshoot of the project was that two of the school's students, Tristan and Andrew, expanded the area with the help of Men of the Trees. From 1998, leadership of the group was taken over by John Jordaan.

The aim was to restore riparian vegetation in a section of parkland along Cedar Creek, a tributary of Kedron Brook, just north and south of the road bridge in Tramway Street **UBD Map 137 L3**.

The area varies from dry sclerophyll forest and small areas of remnant rainforest to areas completely overgrown with weeds including Morning Glory, Madeira Vine and Guinea Grass. It was one of the first areas in Brisbane where the weed *Dyschoriste depressa* was found, spread by mowers.

Frog habitat development

Three students, Bronwen Wynn-Hughes, Melissa Attwater and Sheree Osbourne, won the high school section of the Waterwise Garden competition, the award giving them on-ground support from Conservation Volunteers working on frog habitat. The project involved clearing rubbish, laying down geofabric, six cubic metres of large rocks and back filling. In 2005, Janet White helped with signage. In 2008 guinea grass and vines were removed, allowing the planting of a thousand native plants by Men of the Trees, Rotary Club of Mitchelton, Ferny Grove State High School, local volunteers and Brisbane City Council workers. It was hoped that this successful project would allow a regenerated understorey of native plants to take over.

Recent years

John Jordaan has worked in partnership with the Keperra Kings Lioness Club which joined the bushcare program in 2004.

The Ferny Grove Bushcare group continues to work to improve natural habitat by removing weeds and replanting, where necessary with local native species. One of the biggest challenges for the group is keeping on top of the Madeira Vine infestation. However nothing seems to deter the group's enthusiasm for continuing their bushcare work.

The Ferny Grove site, off Tramway Street RW

John Jordaan right group leader in 2013 and a group member at Arbor Street Park KBCBW

Camoola Street Park RW

Camoola Street Park

In November 2008, a severe thunderstorm with destructive winds hit the narrow corridor between The Gap and Keperra, causing more than half of the trees in Camoola Street park to fall over. The community wanted to do something.

Annie Morris approached Save Our Waterways Now (SOWN) and was eventually connected with Kedron Brook Catchment Branch to auspice a grant for an initial planting on site.

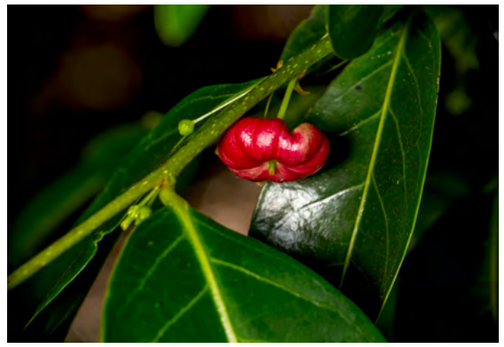
The Brisbane City Council council grant included a planting and sausage sizzle. The group gathered a bunch of locally interested people and from this a Bushcare Group was born with the support of Brisbane City Council. The nature of how this group came to be is a reflection of the intention behind it; it is not just about the important work of restoration, but also connecting the local community to flora and fauna in public spaces. A park that was once vandalised, is now something to be proud of and have contributed to. “It’s our park and we love it.”

Contact person, Annie Morris KBCBW

Kedron Brook Catchment Branch President Robert Standish-White and Secretary, Melissa Burrows, with dog Digger 13 July 2013 KBCBW

Above the Camoola Street Park group and below Tawny Frogmouth *Podargus strigoides* KBCBW

Camoola Street Park group planting to protect park trees from mowing and below the result KBCBW



Opposite the Camoola Bushcare site is bordered by Matrush, notably *Lomandra hystrix*, which provides a useful barrier to protect the plantings and deter Cane Toads AJ Trees include Cheese Tree *Glochidion ferdinandi* top left, *Casuarina* spp. top right with Sulphur-crested Cockatoo and Creek Bottlebrush *Melaleuca salicina* middle right. A moorhen middle left was patrolling the water's edge. Below Smartweed *Persicaria* sp. a useful native replacement for weedy *Ruellia tweediana* RW

Brook Park RW

Brook Park

Since 2007 community volunteers have worked tirelessly to remove weeds from Brook Park at Kuringal Drive **UBD map 137 3R**.

Brook Park is a vital link in the Mountains-to-Mangroves corridor. It provides both a significant pathway and habitat for a wide range of wildlife in good condition with a well-established canopy of primarily native species.

This forest has considerable biodiversity and parts of it have State significance.

In early 2007, Brook Park bushcare group received a $5,000 Community Assistance Scheme grant. This support enabled clearing of a large section of weeds along the banks of the Kedron Brook to re-establish a buffer of native vegetation.

In 2008 a $2,500 grant from Brisbane City Council was matched by Pine Rivers Shire and another massive effort was carried out through the winter and spring seasons for that year.

A bamboo infestation was particularly difficult to remove. Steady work by local volunteers, especially from Henry and Mary Cichowski, removed most of the weed but suckering was still widespread. Council assistance followed up with chemical treatment of the sporadic suckering. Late in 2010, the site had a significant amount of Chinese Elm removed in behind the planting buffer.

Opposite Kedron Brook at Brook Park RW

Catchment Coordinator Sonya Schmidtchen bottom left and Cr Brian Battersby bottom right with the group on 22 March 2007 KBCBW

Brook Park is notable for good populations of a rainforest pioneer species *Pittosporum revolutum* which features orange fruit with red sticky seed top right. Ferns include *Doodia aspera* top left and Maidenhair middle right while a Little Corella gnaws at the bark middle left. Below Strong and diverse creekside vegetation flourishing in Brook Park, not weed free, but healthy RW Opposite a hollowed out but still healthy Waterhousea. RW

Dawson Parade

The Dawson Parade bushcare site is on the south bank of Kedron Brook near the Arana Hills Leagues Club. In 2001, the group began under the leadership of Judith Kerr then transferring to Ray and Di Loughrey. Staff from the Grovely TAFE Centre and The Brisbane City Council provided valuable assistance.

After 2008, flooding and consequent erosion severely damaged the site. At this time, Ray and Di were also leading a group at Wahminda Grove. It is a tribute to their dedication and energy that both sites were being progressively changed into areas of diverse vegetation. Both working groups were conducted in a friendly social manner; working bees ended with a "cuppa and cake" and conversation about progress, their plans and aspirations.

After 2010, Ray and Di concentrated solely on Wahminda Grove.

The group's working bees endeavoured to rehabilitate the southern creek bank and flood plain of a channel behind the Arana Hills K-Mart carpark which flows into Kedron Brook, using the nucleus of remnant native vegetation, which included some superb Weeping Lilly Pilly trees *Waterhousea floribunda*.

Major developments and grey-water drainage pipes were embedded in the creek and parts of the embankment had a thin veneer of mulch covering concrete and rock fill.

Apart from a few surviving shade trees, there was little native plant diversity and vegetative structural complexity remaining when the group first started.

The volunteers removed weeds, prepared the ground and selected plant species (as far as possible from seed collected from local plants) including natives for food sources and a secure environment for small birds and animals.

Ray and Di Loughrey always shared a cuppa and cake at the end of their working bees KBCBW

Facing page the well known boundary sign on Dawson Parade as you enter Brisbane from Moreton, just before the road bridge AJ Above ducks upstream from the pedestrian creek crossing and below the pedestrian creek crossing itself, seen through the plantings RW

Some of the remnant Paperbark trees adjacent to the former site of the Australian Catholic university in Mitchelton RW

Mitchelton

Between 1991 and 2002 the McCauley campus of the Australian Catholic University was located on a small tributary in the Mitchelton reach of Kedron Brook. A University-based bushcare group was active at the site for several years.

The paperbark forest in this area is one of the few old growth stands remaining along Kedron Brook. Small woodland birds and ground-dwelling wildlife use bracken in understorey for cover and to nest.

The site can be accessed via a path running between Redgum Place and Bellevue Avenue Gaythorne, where restoration was carried out as a joint project of Ariadne and Watpac.

The Mitchie bushcare group started in earnest in 2004. Staff and students from both Mitchelton State High School and State School united to carry out restoration activities as part of the curriculum. Both schools are close to two small rivulets that unite about Glen Retreat Rd **UBD map 138 H6** forming a stream which runs under Samford Road and behind the shops on the western side of Blackwood Street, joining Kedron Brook near Brookside park on the eastern side of Brookside shopping centre.

The Glen Retreat bushcare group existed for a few years around 2005. The group cared for the small bush gully between Frasers Road and Glen Retreat Road at Mitchelton where an intermittent creek meanders until eventually flowing into Kedron Brook. Many species of birds and native wildlife are found in this secluded place. The group coordinator, Josephine McKay, trained in horticulture, was always on hand to identify plants or offer advice if required.

Flowers of the iconic paperbark *Melaleuca quinquenervia*. Forests of this type in sandier soils and swampy areas would have been common across much of Brisbane RW

Scaly-breasted Lorikeet *Trichoglossus chlorolepidotus* feeding on the flowers of the Paperbark Tree *Melaleuca quinquenervia* at Redgum Place on the southern side of the remnant at the former Australian Catholic University campus In Mitchelton RW

Tuesday Tree Liberators site at Pony Club Bend Mitchelton AJ

Tuesday Tree Liberators

The Tuesday Tree Liberators work along Kedron Brook, from McConaghy Street to Osborne Road, **UBD map 138 L1**.

The group's area directly adjoins the Osborne Road bushcare group area downstream and together they provide a significant pathway and habitat for a wide range of wildlife, an important link in the Mountains-to-Mangroves corridor. A bikepath now crosses Kedron Brook near Osborne Road.

Following the Mitchelton Equestrian and Pony Club closing in 2015 the Tuesday Tree Liberators are keen to see the park continue as a community space possibly with a community garden.

When the group began, Madeira, Morning Glory and Glycine vines were suffocating trees and shrubs, especially on the south-western banks. In 2008, Brisbane City Council grants helped clear weeds to re-establish a buffer of native vegetation.

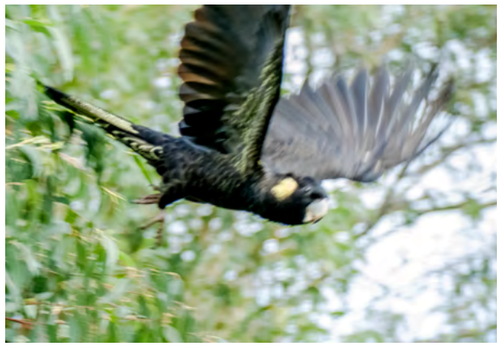
The bushcare group has made great inroads into the reclamation of the area for the natural flora and fauna with the help of volunteers from adjacent bushcare groups.

The group also participated in frog and bird observation activities in the area.

In 2008 Helen Moriarty and Janet White worked closely with Brisbane City Council, Mitchelton Pony Club and other local groups and residents on an art and sculpture project.

Locals were invited to help with the sandstone sculptures, discovering a talent they never knew they had under the guidance of professional sculptor Paul Stumkat. The sculptures can be seen from McConaghy Street Mitchelton through to Osborne Road.

Above sculpture detail, below Mosaic artwork by Janet White inset into the bikepath in 2008 AJ



Top row left a Tree Liberator's glimpse of a Yellow-tailed Black Cockatoo before it flew off and out of sight RW Middle row left two of the Tuesday Tree Liberators AJ and right a Willy Wagtail contemplating a meal of the weedy *Rivina humilis* berries. Below the Diamond-leaved Pittosporum *Auranticarpa rhombifolia* at the Tree Liberators' site RW Opposite, the struggle ahead AJ

At the site of the Tuesday Tree Liberators a Giant Water Bug *Lethocerus insulanus* sculpture above and below two Hibiscus flowers. On the left a native *Hibiscus heterophyllus* and on the right a weedy Hibiscus flower RW

Above left Stumkat workshop sculpture created by Robert Standish-White and Barry Ingham AJ Right Brown Honeyeater *Lichmera indistincta* KBCBW Middle row left Bush Stone-curlew *Burhinus grallarius* Eastern Spinebill *Acanthorhynchus tenuirostris Bottom* Eastern Yellow Robin E*opsaltria australis* Eastern Koel *Eudnamys orientalis* GEOFF WALKER

Osborne Road

The Osborne Road group started way back in July 1998 on the eastern bank of Kedron Brook from the Osborne Road bridge up to Greenway Bridge that crosses into Pony Club Bend **UBD map 138 L2**.

The group steadily replaced weed species including Yellow Bells, Singapore Daisy, Madeira Vine and Glycine with approximately 3,500 plants, ranging from grasses to trees, to recreate lost habitat. Weeping Lilly Pilly *Waterhousea floribunda* is naturally regenerating in the stream bed.

Volunteers have included the Everton Park Saturday Cub Scouts, students at Grovely TAFE, Conservation Volunteers Australia, Greening Australia and local residents.

Fauna sightings include kingfishers, swallows, wrens, honeyeaters, pheasant coucals, carpet snakes, bandicoots and even a lone Rufous Night Heron in the creek bed.

In March 2008, an extension of the Greenway was completed from Osborne Road opposite Teralba Park to Lansvale Street including the bikeway bridge over Kedron Brook and in 2010, Kedron Brook the bikeway extended from Teralba Park to Woking Street at Mitchelton.

Heavy storms since 2008 scoured the creek bed and banks, threatening houses as well as devastating creek restoration efforts. Engineering works to mitigate flooding of properties including some bulldozing along the eastern bank removed many well-established *Lomandra* spp. On 8 June 2011, Brisbane City Council's Habitat Team came to the rescue and provided the labour and materials to start a trial of native long-stem planting, a first for South East Queensland.

120 trees were "long-stem planted" and the success of this experiment was followed by widespread use of the technique.

Opposite Osborne Road bushcare site with the native Stephania providing an admirable ground cover AJ

Morning tea break on 1 June 2013 using the mosaic clad bench designed and created by Janet White KBCBW

Many birds have utilised the restoration at the Osborne Road bushcare site including the Pheasant Coucal *Centropus phasianinus* above left GEOFF WALKER and the Rufous Night Heron or Nankeen Night Heron *Nycticorax caledonicus* above right RW Below a Janet White mosaic inset into the bike path at Osborne Road AJ

Inside the restoration at the Osborne Road bushcare site above and below Kedron Book adjacent to both Osborne Road and the Tuesday Tree Liberators RW

Above Southern Boobook *Ninox boobook*, the smallest owl on the Australian mainland and the continent's most widely distributed and common owl. It is predominantly brown in plumage with grey-green or yellow-green eyes. It feeds on insects and small vertebrates GEOFF WALKER

Opposite Barn Owl *Tyto alba*, most widely distributed species of owl and one of the most widespread of all birds. NEIL FORDYCE

Teralba Park

Kedron Brook forms the north west border of Teralba park. Two small drainage channels cross the park and run into the Brook. In the northwest there are mature Queensland Blue Gums, Ironbarks, Spotted Gums and Red Ash which may be remnant or at least natural succession of remnant bush. *Acacia melanoxylon*, *Waterhousea floribunda* and *Melaleuca quinquenervia* are present. Other than these remnant trees, there is little to indicate the park's original vegetation.

Stories tell us the area was a lettuce farm until some time in the 1970s. When this use ceased, the council removed much of the beautiful alluvial loam topsoil which was used in Victoria Park and the Botanical Gardens.

In early 1991 Men of the Trees held a planting with residents in the southern part of the park, planting an elegant sweep of Moreton Bay Figs to screen off Burwood Road.

In 1993 the group planted the bank below Teralba Street but late in 1993 30 of 50 plants planted were stolen by a woman with a sharp knife and an Alsatian dog. Such are the trials and tribulations of bushcare.

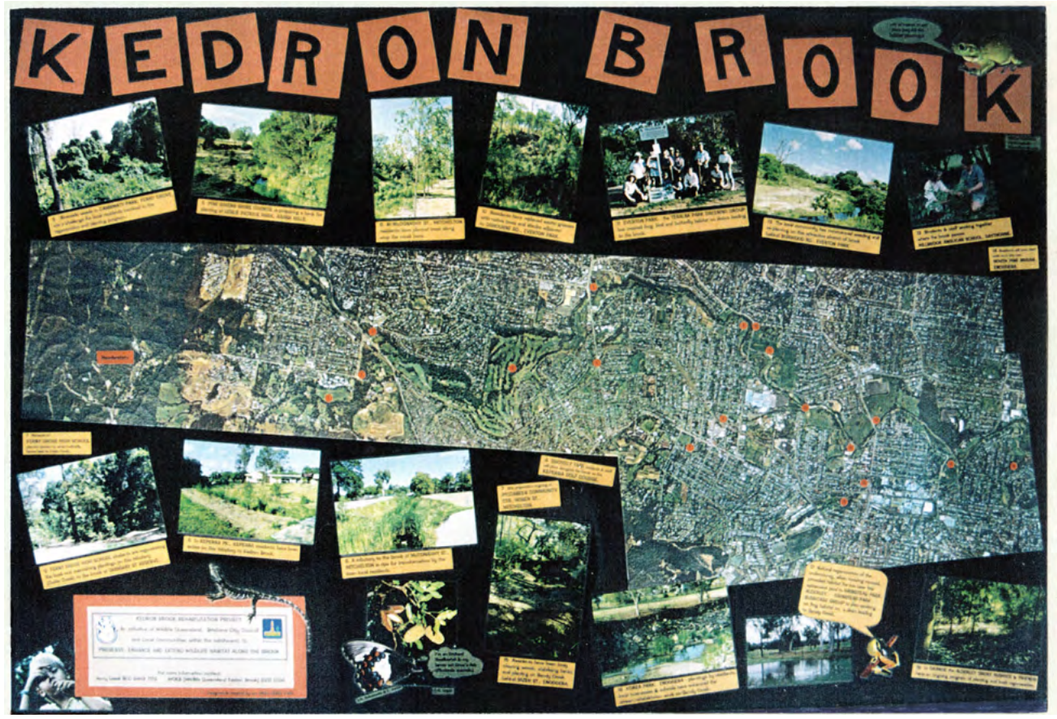
In May 1994 the group started work on Ken's Gully, the Ken being Ken McClymont.

Regular park users who saw the group making an effort came to join in. “You're doing a good job!” comments outweighed “Damn Greenies, cutting down our Mulberry trees!”

In a little less than three years the group held 20 plantings (four along the biketrack, six on the steep bank, 10 in Ken's Gully); planted 130 different species and in excess of 1,500 individual plants. The group wishes to thank in particular for expertise, organisational help and hard yakka, Barbara Tealby, Murray Mcintyre, Ken McClymont and Keryn Hyslop.

Opposite Eucalypt Hill, one of the major planted areas at Teralba Park RW

Below an early poster celebrating the work of habitat restoration activities on Kedron Brook. See next page.



An early poster celebrating the work of habitat restoration activities on Kedron Brook. See previous page. Below, volunteers enjoying a break in restoration activities at Teralba Park JANET WHITE

Bid to revive a piece of paradise

In 1996 Brian Williams wrote about the Kedron Brook Restoration project in The Courier-Mail. He described early explorers finding an unpolluted braided stream with wetlands and deep pools, a home to many creatures, including the platypus and eastern quoll; a site for bora rings and aboriginal camps. These have all gone.

During a visit to Moreton Bay in 1828, colonial botanist Fraser climbed Mt Coot-tha, looked out over the northern part of Brisbane, and described what he saw: *"The view from the south-east to the north-west was extensive and very grand; presenting an immense, thinly wooded plain, whose surface was gently undulated and clothed with luxuriant grass."*

Fraser returned the following year and visited the site planned for convict agriculture, Eagle Farm on Kedron Brook's lower reaches. *"One reach of the creek I found to exceed 1.6 km, with an average breadth of from 5-7 m, and a depth to 2 m** its banks are formed of a reedy marsh. The land is formed of undulating ridges... lightly timbered."*

By consulting early botanical records, groups restoring land along Kedron Brook prioritise the natural remnants first, then attempt to link these with a green corridor.

Creativity is required to deal with the changed conditions, being increased flow early "channelisation" straightened many sections to float timber downstream, poorer soil, development and weeds.

The aim is to increase biological health for the benefit of both native wildlife and human recreation.

*The open landscape was a result of Aboriginal fire farming.

** Translated from miles, feet and fathoms.

Above, the junction of one of the tributaries and Kedron Brook RW

Below, extract of the Title Deed of Teralba Park COLLECTION OF JANET WHITE

Name of Park TERALBA

Property Description

Part of Portion 4, Parish of Bunya
Portion 17, Parish of Kedron
and
Part of Portion 16, Parish of Kedron

Area Pullen Road, EVERTON PARK

Date Named July 1952

Resume of Naming Reason

TERALBA

The 36 acres on the southern side of Pullen Road resumed by Brisbane City Council in January 1952 for Park and recreation, was named Teralba meaning ' Big Trees' by Everton Park & Bunyaville Improvement Association. November 1955 this Association also installed a brass plaque set in concrete indicating their donation of the rustic timber seats and play equipment to this park.

When Pine Divisional Board was formed in 1888, part of the lands forming this park were within the boundary until around 1894. The Park is part of Portion 4 which was owned by Nicholas Mitchell for whom Mitchelton was named. The central and bulk of the area is Portion 17,Parish of Enoggera, which between 1860 and 1900 was the very successful Vineyard of Mr Jesse Pullen, whose 11 roomed dwelling named "Auburn" sat atop the knoll. Most successful Chinese market gardeners then occupied the lands for the following 40 years or so.

Above, mixed planting at Teralba Park on Kedron Brook, below roots of a large fig getting larger RW

Kedron Brook where it meets the Hillbrook tributary RW

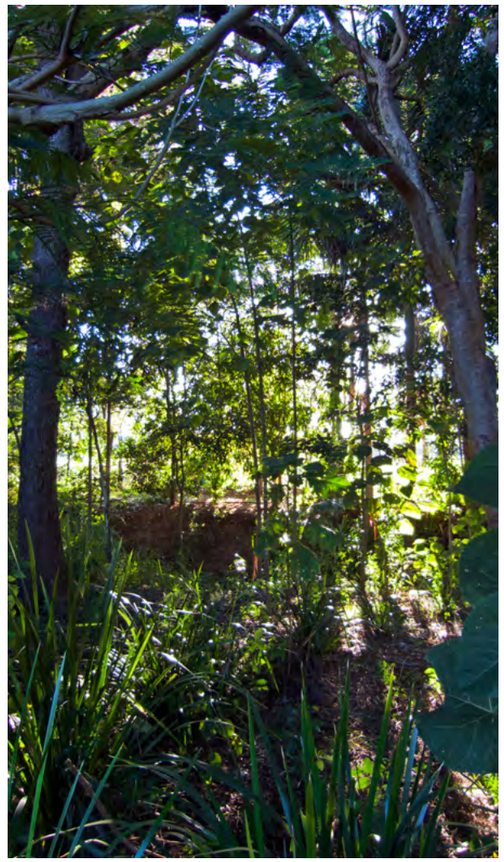
Hillbrook Anglican School

Hillbrook Anglican School has been rehabilitating a tributary of Kedron Brook since 1998. Striped Marsh Frogs and Keelback Snakes have been seen in the waterway and forest birds frequently visit the planting site in the school grounds. In 2017 the School's Environment Club was meeting regularly to try to control weedy vines and prepare an area for infill planting. The Hillbrook tributary is used by the School as a learning environment where students can undertake environmental activities.

Kedron Brook here is relatively natural, sandy and often shallow, with dense stream-side vegetation, snags in the watercourse and a meandering stream bed.

Flooding has caused bank slippage, threatening some of the adjacent playing fields. Further planting of deep-rooted and long-lived species, such as figs and Blue Quandong *Elaeocarpus angustifolius*, will stabilise the banks.

The School holds a Sustainability Day environmental expo every two years with displays, workshops, forums, recycling initiatives, sustainable waste options, nature presentations, entertainment and food stalls.



Above natural vegetation being restored in the Hillbrook School grounds. Below students from Hillbrook's environment club doing maintenance work on the creek bank RW Next spread Hillbrook School Site in 1998 JANET WHITE

This spread Hillbrook School Site in 1998 JANET WHITE

Sparkes Hill

Sparkes Hill is a prominent landmark to the east of Everton Park State High School, bordered on the southside by Kedron Brook. The hill was named after Alonzo Sparkes, a prominent butcher, who used it as grazing area in late 1800s.

A communication tower pokes its way out near the top where there is also a simple park with some wooden seats. A bush path, constructed by Woodford Prison inmates, joins the Matthews Street access to the main walkway entrance from Longland Street **UBD map 139 D6**.

The Sparkes Hill bushcare group was involved in planting, controlling weeds and constructing paths, working in cooperation with teachers and students of the adjacent Everton Park State High School and Grovely TAFE. For over nineteen years, Bob Robbie was a legend as an energetic volunteer with habitat management on this water reserve. His leadership qualities were exemplary when interacting with other bushcare groups, community organisations, Brisbane City Council and government bodies.

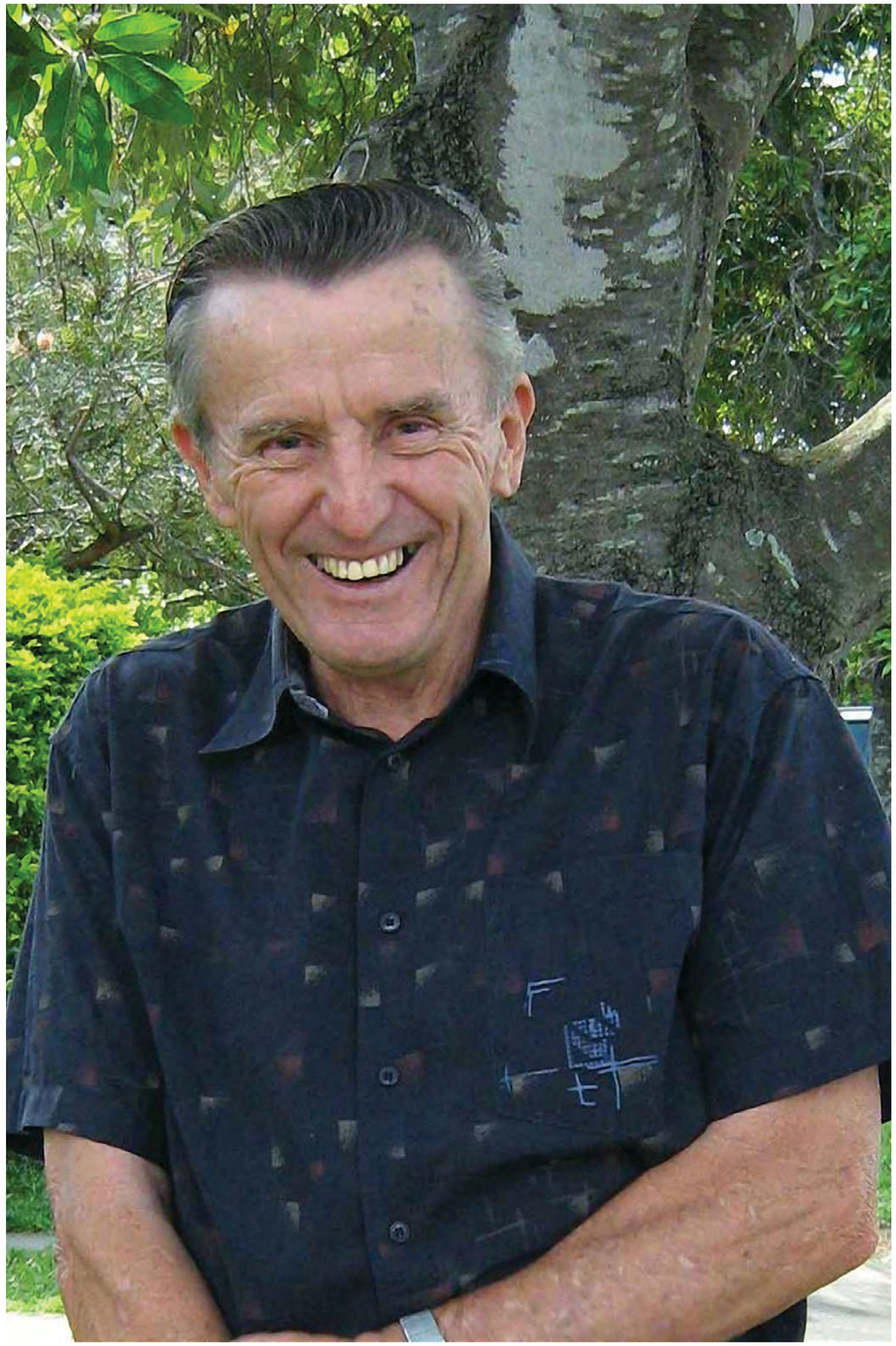
In May 2011, Bob finally decided it was time to rest so he could enjoy the pleasures of life after Sparkes Hill. On 15 December that year he died.

In recent years rehabilitation work in the south-west portion of the reserve was continued with input from the Green Army.

Sparkes Hill Reserve contains areas of open forest with a mixed eucalyptus canopy. Native plants dominate the shrub layer and understorey. Relatively large areas of kangaroo grass are present. In moister sections of the reserve, and near drainage gullies, weeds are more common. There is always a large colony of flying foxes on the western side. They present a wonderful sight from the bottom path along Kedron Brook.

Opposite the dry eucalypt woodland on the ridge of Sparkes Hill and below, the view looking east RW

Above and below left Bob Robbie working on his beloved Sparkes Hill site. Below right a koala sleeping on the job at Sparkes Hill in 2007. Opposite Bob Robbie many years later in May 2011 when “retired” from caring for the site after 19 years KBCBW



Shand Street

Joan Stomfai was involved in a community planting along Kedron Brook, downstream from Grinstead Park around 2000.

A year later and soon after Joan retired she went to check on the progress of the trees and found them mostly covered with Mile-a-Minute.

Joan commenced lifting the vine by rolling it up into large bundles and in the process found a good number of the plants had actually survived.

Recognising that the plantings deserved some care and attention, Joan adopted the site under the umbrella of Grinstead Park Bushcare Group.

The Shand Street site is still going today and is naturally regenerating requiring minimal maintenance, except for the continual emergence of Chinese Elm seedlings, which require regular attention!

Below and opposite, scenes from the Shand Street site in 2017 FLEUR SANDERSON

Before and after. Planting in April 2009 left was an established buffer by August 2010 right KBCBW
Habitat was being restored for species such as Stony Creek Frog *Litoria wilcoxii* below MARK CROCKER

Grinstead Park

Grinstead Park at Shand Street Alderley 130 Shand Street **UBD map 139 D8** features many old eucalypts, some revegetated sections and many grassy areas. A bike path parallel to Kedron Brook passes under the Shand Street road bridge and through to Royal Parade on the eastern side of the Park.

Moira Lowson was Grinstead Park bushcare leader for eleven years from 1996, succeeded by Janet White from 2008 to late 2010. Debbie Dolby, who had been assisting at Grinstead Park for some years, kept things going until late 2012. All three bushcare leaders were deeply interested in frogs and spent a great deal of effort maintaining frog habitat.

The Grinstead Park bushcare group was formed in 1996 to protect several native frog-breeding sites near a stand of mature eucalypts. At Frog Gully a bund was installed at the Sandy Creek end of the earth drain to improve water holding capacity. A riparian planting scheme of *Lomandra* spp., sedges and acacias was planted at the Sandy Creek end of the drain. Frogs have very specific breeding site requirements. *Litoria* spp. favour shallow grassland soaks. *Limnodynastes* spp. favour deeper pools of water. Tadpoles require warm water temperatures to quickly complete the growth cycle from egg spawn to froglet. Timber bollards were inserted into the ground to protect the site from mowers and encourage natural regeneration.

In November 2000, after a wildfire burnt the area, 300 plants were planted and mulched with assistance from Grovely TAFE Students.

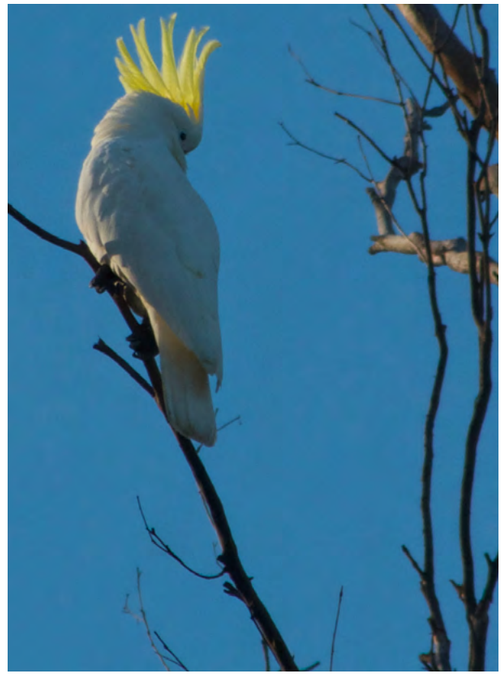
Regular planting days with corporate volunteers and the community resulted in improved habitat, sightings of native wildlife increasing accordingly. A Fairy-wren breeding site was spotted in a stand of Thickhead *Crassocephalum crepidioides* feeding on insects.

The northern side of Frog Gully was planted in 2009. Frog species recorded using this site include Ornate Burrowing Frog *Limnodynastes ornatus*, Striped Marsh Frog *Limnodynastes peronii* and Tusked Frog *Adelotis brevis*. Occasionally, Tree Frogs will use this site if insufficient rain falls at the nearby ephemeral grassland site which is only viable after heavy summer rainfall. Several areas within Grinstead Park attract breeding frogs when they become inundated with water after sufficient rain. Grassy plants like rushes *Lomandra* spp. reeds, sedges, and strap-like lillies Dianella spp. provide good shelter and calling sites.

Species recorded in these ephemeral grassland sites include Green Tree Frog *Litoria caerulea*, Graceful Tree Frog *Litoria gracilenta,* Bleating Tree Frog *Litoria dentata and* Eastern Sedge Frog *Litoria fallax*.

In 2010, Stony Creek Frogs *Litoria wilcoxii* were observed near the bikeway and Graceful Treefrogs were making a strong comeback.

Sulphur-crested Cockatoo *Cacatua galerita* at Grinstead Park. The parklands at Grinstead contain some excellent large trees with hollows and perches for birds RW



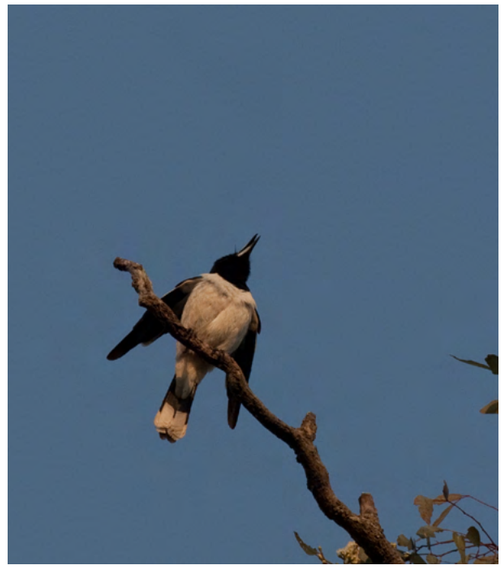
Jenny Holdway of the Queensland Frog Society left addressing a large planting group at Frog Creek, which is tributary to Sandy Creek, Grinstead Park in 2009. Below mulching Frog Creek. JANET WHITE

Planting and mulching beneath habitat trees to protect trees from mowers, encourage regeneration beneath and reduce possibility of limb drop on passers-by. Below Janet White and Barbara Tealby treating Taro *Calocasia esculenta* in Kedron Brook. NEIL FORDYCE

Protective planting getting established beneath habitat trees NEIL FORDYCE

Galah at its hollow in a habitat tree, Grinstead Park. Below Sulphur-crested Cockatoo in a freshly-produced tree-balcony. JANET WHITE

Common grass yellow *Eurema hecabe* on Coffee bush *Breynia oblongifolia* in Grinstead Park. Below sign for event in 2005. Opposite Common Green Treefrog, *Litoria caerulea* amplexus in ephemeral pool in west Grinstead. JANET WHITE



Opposite Graceful Tree Frog *Litoria gracilenta* in Grinstead Park. Above left Rainbow Lorikeets *Trichoglossus moluccanus* using habitat tree hollows. Above right Pied Butcherbird *Cracticus nigrogularis* giving forth song, Below Green Tree Snake *Dendrelaphis punctulatus* JANET WHITE

Grange Forest Park

Alderley-Grange Bushies and Friends under the leadership of Alf Harvey were responsible for some sterling catchment management work in Grange Forest Park for many years.

Habitat Brisbane Officer Catherine Cleary wrote in 2011 “Mr Alf Harvey began his work in the Grange Forest Park around 1990.

“In the early 1970s, the site was extensively used as a dump and, according to Alf, could have had anything from ‘potato peels to car bodies’.

“His objective was ‘to create a bit of bush’.”

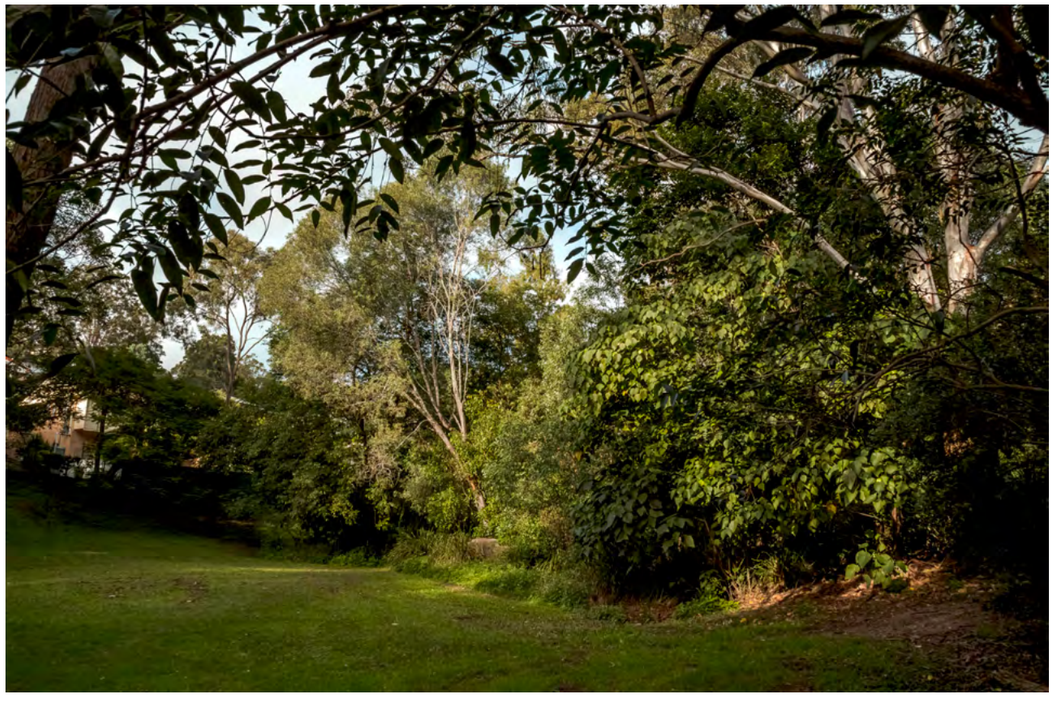
Alf planted and weeded extensively on the site for over two decades. During that time he saw the group wax and wane in numbers. On many occasions he held a one-man working bee, just himself.

He admitted to finding it difficult to deal with the ever-increasing number of scrub turkeys which now call the site home.

Alderley-Grange Bushies and Friends work area is now mainly in the western section of the forest along Mornington Street Grange. The adjacent group, the Greenbrook Association, tends to work more along the eastern section of the Grange Forest Park, mostly north of Blandford Street.

Testament to the health of Grange Forest Park, ferns germinating in the moist conditions under dense forest canopy AJ

Pathway through the forest at Grange Forest Park AJ



Park view of the dense forest in Grange Forest Park. Below left *Breynia oblongifolia*, an important dry rainforest shrub, below right an Ichneumon Wasp at the site RW

Above, one of the original Habitat Brisbane site signs at Grange Forest Park. Below, a Tree Fern in the moist gully under the canopy RW

Greenbrook Association

The Greenbrook Association bushcare group was formed in 1983 by Frank Box, initially in Hickey Park Stafford moving upstream to a large area of derelict land opposite the Stafford Tannery, between Mornington Street and Blandford Street. The area was subsequently named Grange Forest Park.

Grange Forest Park, where Kedron Brook winds behind the Stafford City Shopping Centre, lies more or less equidistant between Stafford, Grange and Alderley communities **UBD map 139 H8**.Greenbrook Association is aiming to achieve a plant community at Grange Forest Park which may have existed along Kedron Brook before European settlement, supporting as much native wildlife as possible, especially the species facing increasing difficulty living in the suburbs. Many species once common in the surrounding suburbs are now rare or absent.

The group works under the broad umbrella of a shared concern by its members for the quality of the natural environment. There are no membership fees, no office-bearers and no regular meetings apart from working bees.

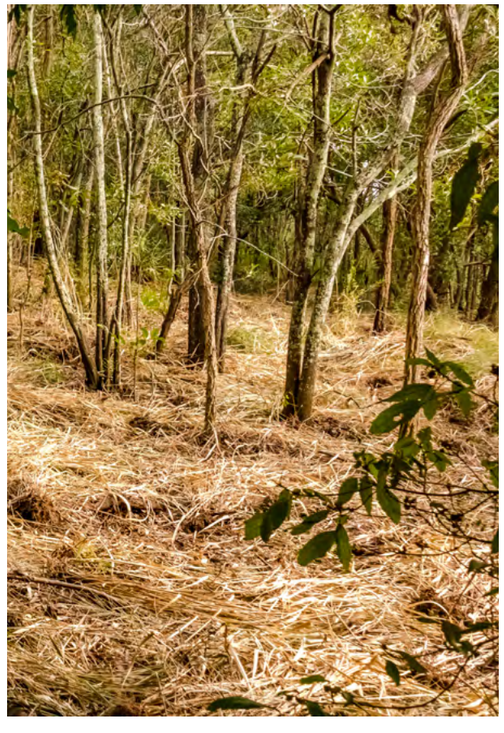
Of particular interest to the Greenbrook Association is the emergent weed *Dyschoriste depressa* which poses as great a threat to the native ecology of the catchment as any of the others listed. It is found in parks, gardens, lawns, parks, roadsides, footpaths, and waterways in Brisbane. It prefers wetter environments such as creek banks and wetlands, but will also grow in drier habitats. It has spread at an alarming rate in recent years and has been observed to develop into very dense monocultures, particularly along waterways in the Kedron Brook, Enoggera Creek and Ithaca Creek catchments. Such infestations have the potential to damage riparian ecosystems and reduce biodiversity, and may also restrict the flow of water. The Greenbrook Association has been very active in targeting this weed. The group is encouraging an area of grassland to establish. For this reason the invasive nature of *Dyschoriste depressa* poses a real threat to their site.

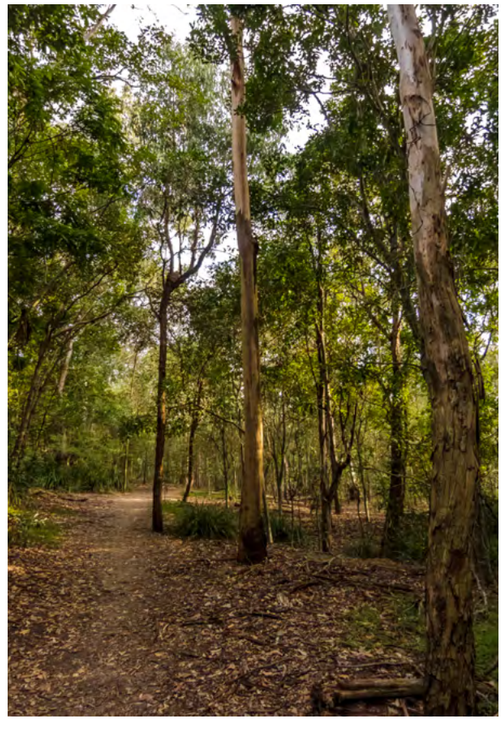
Opposite the local eucalypts and allies towering over a Tulipwood *Harpullia pendula* at Grange Forest Park RW Below left site sign with the walking bridge behind, below right group leader Greg Smith with Russell Gentle at a planting 17 October 2010 KBCBW

Above wattle just beginning to flower in July 2017 over the track at Grange Forest Park RW

Below Stopping for a tea break during a Grange Forest activity 19 July 2015 KBCBW

Above, Australian King Parrot *Alisterus scapularis* a common visitor to native gardens and bushcare sites in Brisbane KBCBW Below left mulching with pulled Panic Grass, below right a track through a dry section of Grange Forest Park RW





Golden-headed Cisticola, *Cisticola exilis*, one of the bird species seen on the edges of grasses in some of the open parkland areas along the Lutwyche reaches of Kedron Brook CC BY GREG SCHECTER

Lutwyche Reach

The Lutwyche Reach bushcare group was active at a number of sites along Kedron Brook. Some were concreted in the late 1970s following flooding in 1974. Most of their sites were between the Gympie Road bridge and the Gilbert Road bridge as well as upstream near Webster Road. Activities were carried out roughly between **UBD map 139 N10** and **map 140 B7**.

Despite the severe modification of the channel, grassy verges along Kedron Brook provide cover and habitat for several species of birds such as Cisticola and Crakes, as well as being a refuge for waterfowl. Grass Owls have been observed hunting along the grassy channel. In summer and spring insectivorous bats feed on emerging insects along the stream.

Facilities along this section of Kedron Brook include a bike track which is part of a broader network and extends from the Zion Hill bushcare site to beyond Pony Club Bend at Mitchelton.

The northern bank of Kedron Brook between the Gilbert Road bridge and the Gympie Road bridge is an expansive dog-off leash area that has become very popular with both locals and others from beyond the local area.

The floodway has changed in the past ten years from a barely-used barren channel, to an area of open space well-used by visitors for walking, cycling, relaxing or walking dogs.

The group's aims were to recreate native vegetation habitat for wildlife and create shady rest areas along Kedron Brook, to visually soften the harsh channelised section of the Brook and protect and stabilise the creek banks and surrounding areas from erosion

The Lutwyche Reach Bushcare group formed in 2001 through the amalgamation of several small groups that had been working in this section of Kedron Brook.

Before the group was formed, participants were involved in planting and weeding at several sites along the Lutwyche Reach including a site to the south west of the

Donald Hopkins and Mark Lacy on a working bee, near Montrose Road, August 2010 KBCBW

Gilbert Road bridge; a site along Billabong Crescent Stafford, the bank of Kedron Brook adjacent to Webster Road; a safety buffer planting around the Bunya Pine that is now part of Archer Street Park; three plantings at the Gordon Park Scout Den with Joey and Cub Scouts at Bradshaw Park; a planting at Piper Street; a site on the southern bank near the Gympie Road Bridge (this site was swallowed up by the Airport Link construction); plantings along McCord Street; plantings adjacent to the Grange Thistle soccer fields at Lanham Park and plantings adjacent to Swinburne Street. Changes to the water quality in places have resulted from a lack of shade over the water.

Plantings have improved the aesthetics and habitat, with wildlife pockets having been created. Water dragons, lizards, birds, turtles and yabbies all occur along the Lutwyche Reach.

Begun in 2001, the Damon Road Project was one of the group's largest projects, established and revisited with the assistance of the Men of the Trees and Greening Australia volunteers, involving a 50-metre section of steep bank rising about 12 metres above the flood plains and needing stabilisation to prevent erosion.

Planting of local native trees, shrubs, grasses and *Lomandra* spp. was undertaken with the assistance and support of Men of the Trees in October 2001 with a follow-up planting in April 2002.

Another section of the bank was planted with the assistance of Men of the Trees in 2002 after Brisbane City Council cleared tall grasses and shrubby weeds.

Altogether several hundred trees, shrubs, grasses and herbs were planted at the Damon Street site, plant survival being high, resulting in a formerly exposed site slowly developing a vegetation cover.

A further clearing and planting was undertaken in May 2009 with supplementary understorey plantings added during 2011.

Seasonal Bee-eaters are occasionally seen along Kedron Brook, a welcome sight of an extremely attractive bird ADAM MAUND

Brian Dale was one of the Lutwyche bushcare group members who grew up in the area. He remembers when Kedron Brook was quite different from its current state:

"Kedron Brook was moderately vegetated with tall trees. I remember some swings into the water. The water level was a lot deeper; it was a great kids' play zone. There were crossings along the creek and these were included in the Kedron High School cross-country course. Eels, turtles, platys, poddy mullet and swordtails were frequently seen. There weren't as many ducks as now.

"Stands of bamboo and tall cane grasses were common, though there were fewer types of weeds than there are now. There have been vast changes since widening and straightening the channel."

Middle below Lutwyche Reach looking upstream

Bottom looking downstream beside the Damon Road plantings RW

Historical photos from a poster project in 1998-99 of the “Lutwyche Reach Wanderers” who roamed far and wide in search of sites to improve. Top a planting around a fig in Archer Street, left and above middle, planting at Swinburne Street.

Opposite top Damon Road early days, middle Swinburne Street note the coir logs and below Swinburne Street with the red BCC enviro-mobile.

Next spread, Gilberts Road Duck Pond. Janet White

This spread, Gilberts Road
Duck Pond JANET WHITE

Colac Street

The Colac Street Revegetation Group formed to restore a section of a tributary of Kedron Brook near Colac Street Kedron. In late 1999 Habitat Brisbane Officer Jenny Leask was impressed with their enthusiasm and made arrangements for a trial planting, then for some years they continued to do restoration work along the creek.

The group noticed birds, lizards and invertebrates utilising the habitat provided by their plantings. The site is a section of the creek with steep banks, which present difficulties for restoration work. Buckets were used to carry mulch to plants on the slope.

Weeds observed on site include Annual Ragweed *Ambrosia artemisiifolia*, American Nightshade *Solanum americanum*, Blue Morning Glory *Ipomoea indica*, Castor Oil Plant *Ricinis communis*, Chinese Elm *Celtis sinensis*, Cobbler's Pegs *Bidens pilosa*, Curled Dock *Rumex crispus*, Devil's Fig *Solanum chrysotrichum*, Glycine *Neonotonia wightii*, Green Cestrum *Cestrum parqui*, Guinea Grass *Panicum maximum*, Japanese Sunflower *Tithonia diversifolia*, Johnson Grass *Sorghum halepense*, Kikuyu Grass *Pennisetum clandestinum*, Madeira Vine *Anredera cordifolia*, Mile-a-minute *Ipomoea cairica*, Milk Thistle *Sonchus oleraceus*, Nut Grass *Cyperus rotundus*, Paddy's Lucerne *Medicago sativa*, Para Grass *Urochloa mutica*, Plantain *Plantago* sp., Purple Top *Verbena bonariensis*, Red Natal Grass *Rhynocephalum repens*, Rhodes Grass *Chloris gayana*, Siratro *Macroptilium atropurpureum*, Swamp Dock *Rumex brownii*, Thickhead *Crassocephalum crepidioides* and Yellow Guava *Psidium guajava*.

In recent years the site has become part of the local school's permaculture experiments with food plants in amongst the native restoration. It suggests a positive way forward for complex cultural and environmental activities.

Opposite, entrance to the Colac Street site.

Below flowers of the Cow Pea, a permaculture legume RW

All part of nature. The ladybird beetle and the caterpillar in this photo did not reveal themselves until the image of Mt Morgan Wattle was taken off the camera and processed RW

Benelong

The Benelong bushcare group takes pride in improving the remnant forest adjacent to Mercer Park on Brisbane's northside at the eastern end of Eleventh Avenue Wavell Heights **UBD map 140 D2**.

A circuitous path used by walkers and cyclists winds through the remnant eucalypt forest, restoration work, cleared weed patches and plantings. There are other areas tucked away from the path, including revegetation of a small rivulet that runs down through the park, a natural environment for frogs and water birds, especially after rain.

The group has created a vibrant area now home to frogs, tawny frogmouths, many birds, possums and other wildlife while reducing erosion and improving the health of Kedron Brook.

The group started in 1990. With David O'Gorman as coordinator the members began restoration work with the help of students from local schools and scouting groups. In September 2003 Michael Wilson took over as bushcare leader.

In 2013 Michael handed the group over to Denise Rivers who passed it on to Rob Lucas. Denise is still on hand to help out.

Benelong Park was a rubbish dump until the area was developed for housing in the 1950s.

This quiet section of bush now sits beside popular community facilities such as Mercer Park, John Wren Oval used for weekend cricket matches, the tennis centre off Shaw Road and a busy bikepath.

Below left Denise Rivers shows the new notice board at Benelong Park, October 2016 KBCBW

Below right a magnificent Paperbark Tree at the heart of the restoration site AJ

Top row left, Benelong Park opposite the bushcare site with African Tulip Trees and Leopard Trees, attractive but exotic and a problem in bushland. Top row right, the revegetation. Middle, the path into the site, bottom, new growth on a Lilly Pilly *Syzygium luehmannii* RW

Above left Brisbane Wattle *Acacia fimbriata* flowering at Benelong Bushcare, above right, a pretty but weedy herb *Rivina humilis*. Below a female Golden Orb Weaver in her gleaming web, a male nearby RW

Melrose Creek

Established in March 1999, this group works in Melrose Park Wooloowin, six kilometres from the GPO, in the northern suburbs of Brisbane **UBD map 140 F6**.

The tributary emerges from a stormwater drain under Rose Street and flows into Melrose Park, fed from Lutwyche, Wooloowin, Kalinga, Eagle Junction and Clayfield, eventually joining Kedron Brook in Kalinga Park.

The park is bounded by Rose, Roseleigh and Thorpe Streets. Associated parkland runs under Dawson Street close to Frances Avenue providing access from the east.

Melrose Park has a children's playground, a sculpture walk, toilets, two cricket playing fields, a cricket practice net and a bowls club.

There is a stand of old eucalypts and a row of tall palms framing nearby Queenslander homes. Cheese Trees *Glochidion ferdinandi* are a feature. Brisbane City Council consolidated the creek banks with boulder wall support.

The group has strong neighbourhood support, with small groups able to handle tasks as they emerge. Planting activity is usually started by preparation of a small area with a thick layer of mulch, followed by planting combining tall trees with suitable understorey.

In October 2010, around a Flame Tree, the group added a Cheese Tree *Glochidion ferdinandi*, a White Holly *Pittosporum rhombifolium* and a Crows Ash *Flindersia australis*. Also planted were several *Banksia spinulosa*, *Callistemon viminalis*, *Lomandra multiflora* and *Dianella* spp. *Banksia* and *Callistemon* have been excellent performers at the site. This working bee was followed up with another, a month later, to plant more *Dianella*.

Usually, there is a friendly mid-morning tea break arranged at a neighbour's home which helps to build the group's community spirit.

The Dawson Street site now has many mature trees and shrubs and now is looking great. On 21 January, 2011, leaders of Melrose Creek bushcare group, John and Carolyn Lister received an Australia Day Achievement Award from Brisbane's Lord Mayor Campbell Newman for their contribution to the community.

Above Melrose Creek emerges from a historic culvert built in 1916 with Brisbane tuff.

Opposite Melrose Creek bushcare site AJ

Above Spangled Drongo *Dicrurus bracteatus* rips into bark for spiders, beetles, and other small prey, noisy with harsh metallic racketty chatterings, below Rufous Fantail *Rhipidura rufifrons* Geoff Walker

Above Masked Woodswallow *Artamus personatus* below left Buff-banded Rail *Gallirallus philippensis* below right Pacific Baza *Aviceda subcristata* Geoff Walker

Walking the track upstream along Kedron Brook at Kalinga Park RW

Kalinga Park

Kalinga Park bushcare group works mainly in the forest remnant on the relatively steep northern side of Schulz Canal **UBD map 140 J3.**

The conventional entry to the children's playground, large picnic area and dogs-off-leash area at Kalinga Park is from the south via Park Avenue Eagle Junction. Access from the north is from Carew Street, Hamson Terrace or Toombul Terrace.

At one time, coal was mined from a cliff site within the area. The coal was used for a short time as fuel for the community and industry of developing Brisbane.

In 1910, local councillors were far-sighted enough to purchase and set aside the present area of Kalinga Park.

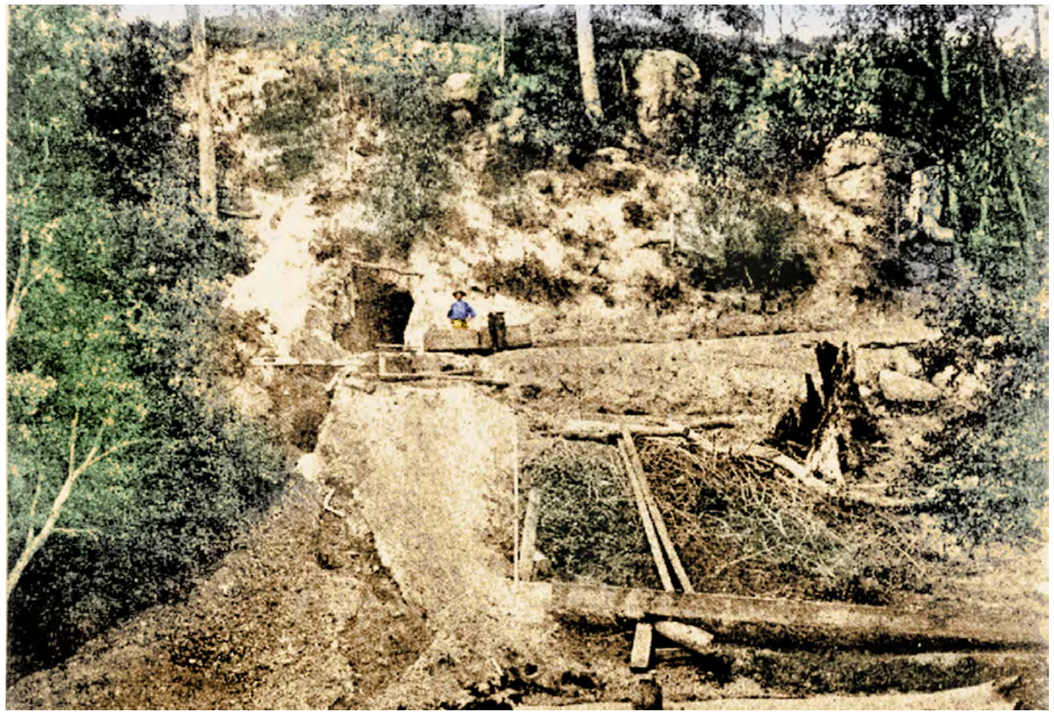
The first bushcare group here was active in the 1990s followed in 2009 by a Kalinga Park Restoration Project. The area is an important link in the Mountains-to-Mangroves corridor. There are a number of large eucalypts on the southern side of Kedron Brook with useful hollows and nectar for birds and marsupials through the year.

In some areas the top soil layer is so shallow it is possible to see the large items that were previously dumped at the site.

In 2009 Chinese Elms on the steep slope were cut but not killed to utilise their root systems for ongoing slope stabilisation. Off-cuts were retained on site and, in conjunction with the installation of coir logs, were used for erosion control.

Each working bee had a main focus of either planting or weeding. The community volunteers have contributed an amazing effort to the restoration project, spending approximately a combined 150 hours planting over 300 plants and removing approximately 1.5 tonnes of weeds from an area of 1,350 square metres.

Habitat Brisbane Officer Fleur Sanderson relaxing with volunteers after a hard work session KBCBW



Gardiner's Colliery which operated at the present site of Kalinga Park on the north bank of Kedron Brook 1906-1910 QLD GOV MINING JOURNAL 1907 Below, the winding track along the Brook RW

The site of Gardiner's Colliery today. Below more views of the historic hillside RW

Opposite Sacred Kingfisher *Todiramphus sanctus* see also page 51 a holy bird for Polynesians who believed it had control over the waves Adam Maund. Above top row left Red-browed Finch, also known as Fire-tail Finch, *Neochmia temporalis*, common in the south east of its range from Brisbane to Melbourne Neil Fordyce. Right Rose Robin *Petroica rosea,* only found in Australia east or south of the Great Dividing Range Geoff Walker. Middle row, Superb Fairy Wren *Malurus cyaneus* proudly posing on a fencepost Adam Maund Bottom right Variegated Fairy Wren *Malurus lamberti*. Primarily insectivorous, forage and live in the shelter of scrubby vegetation across 90 per cent of continental Australia, a wider range than that of any other fairy wren Geoff Walker

Zion Hill

This group's mission is to restore a Melaleuca wetland remnant surrounding the historic Nundah Cemetery in German Station Park.

The site is located at Hedley Avenue Nundah **UBD map 140 Q3**. The group is building on the Nundah Cemetery bushland project of 1993.

Kedron Brook is called Schulz Canal at this reach. It is tidal, with mangroves.

The area was once an important trading and meeting place of the Undumbi of the Gubi Gubi nation. The Zion Hill bushcare group is planning a bush tucker planting to acknowledge the traditional owners.

Nundah Cemetery land was called German Mission, the site of Zion Hill, founded by German Lutheran missionaries in 1838 to bring Christianity to Aboriginal people.

A short tributary flows along the back of the cemetery into Schulz Canal.

Kharyl Scott recalls in the early 1990s the site was overgrown with huge Camphor Laurels and Mile-a-Minute. In March 1992, Kharyl prepared a submission to the Brisbane City Council to regenerate bushland and called on others to "take time to put a little back into your community".

Kharyl managed to orchestrate a large group of diverse people to come together for a big planting along the edge of the tributary and its waterholes.

A core group continued to weed and water, tending the trees. People with property adjoining or nearby to the park took on a proprietary interest. After the summer holidays, with the schools involved, a second big planting saw over 350 trees planted.

Unfortunately Council bulldozers moved in to drain the tributary and destroyed much of the plantings. Undaunted the group continued to tend. Occasionally a fire truck would turn up when Daryl Smith from the local fire brigade came down to do some weeding. Seed taken from the area was propagated by Council.

In 1993 Patricia Vaughan, then Alderman for Eagle Farm, predicted the place would one day be "a cool, pleasant, leafy area which is attractive to wildlife".

Walking in the park now, you can see many Fairy Wrens as well as the usual Butcherbirds, Magpies, Stormbirds and parrots. There are Red-bellied Black and Green Tree Snakes, Eastern Water Dragons and more. The vegetation provides a buffer between the wildlife and housing.

Brisbane City Council took a more active role in organising plantings and in about 1996 at least thirty locals turned up to plant. Council contractors maintained the site and a second community planting followed.

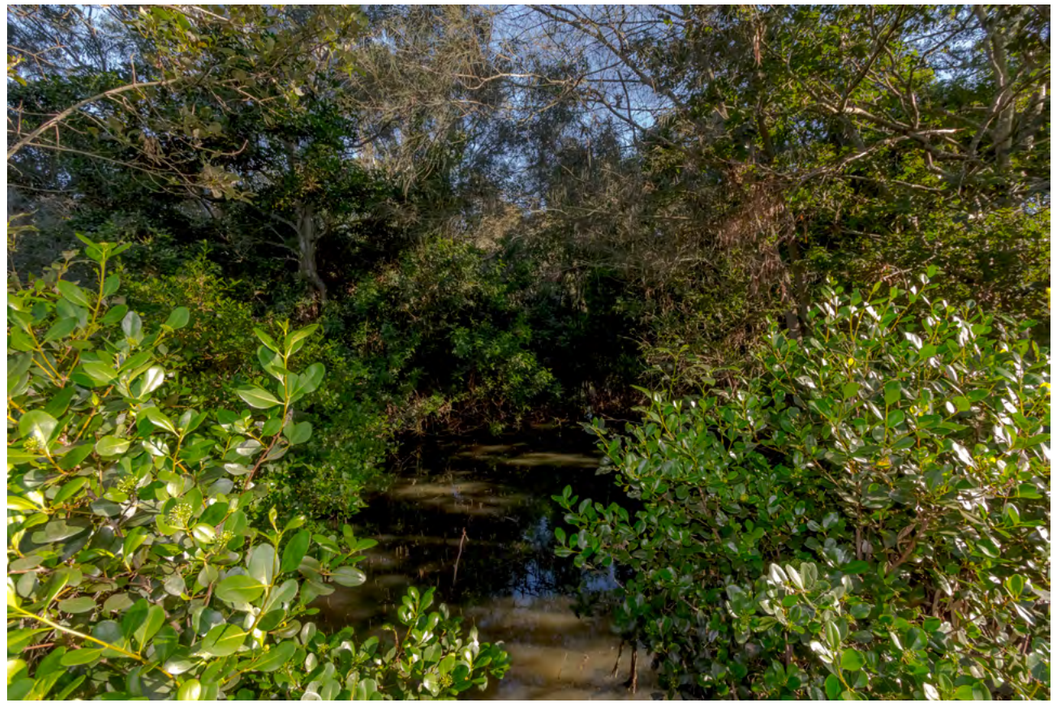
Through word of mouth, mostly by conversations in the park while out walking the dog, a core of dedicated bushcare volunteers formed a group and are continuing the mission.

Opposite, recent plantings along the edges, and below a break after a weeding in June 2013
KBCBW

It's not hard to find the location of the Zion Hill Bushcare Group AJ Below left Forest Red Gum also known as Brisbane Blue Gum *Eucalyptus tereticornis*, right Blue Tongue *Melastoma affine* RW

Above inside the restoration area, where wrens and other small birds are protected by closed forest RW
Below looking across new plantings to the established plantings AJ

Above Whalebone Tree *Streblus brunonianus,* an important component of south east Queensland ecosystems. Below, some less welcome plants, left Japanese Sunflower *Tithonia diversifolia.* Right, weed-on-weed action with Madeira Vine *Anredera cordifolia* smothering Chinese elm *Celtis sinensis* RW



Above a tidal section of a tributary at Zion Hill RW Below left Mangrove Gerygone *Gerygone levigaster*, a small bird with rounded wings which feeds on insects, including beetles, grasshoppers, wasps, ants and moths GEOFF WALKER Below right Nudgee Beach, the eastern limit of the Brook KBCBW

Resources

- *The Babbler* February 2007 - September 2014
- Bird Observations 2008 - May 2017, Kedron Brook Catchment
- Dolby, Debbie, *Kedron Brook Frog Census 2007-2008*, 2009
- Johnson, Karen and Kuper, Nikki, *Project Management Resource*, Kedron Brook Catchment Network
- Kedron Brook Catchment Branch, WPSQ & City Policy & Strategy, Water Resources, Brisbane City Council *Kedron Brook Catchment Remnant Vegetation Prioritisation and Weed Mapping Project,* February 2007
- Melville, Seonaid, *An Assessment of the Fauna Habitat along Kedron Brook* Report, December 2001.
- White, Damian *Short report on the Glideways project undertaken in the Kedron Brook Catchment*, Ferny Grove, Brisbane
- Hayes, Peter and Mcloughlin Anthony with Pat Comben, Kedron Brook Wildlife Rehab Project, Wildlife Preservation Society of Queensland in association with Brisbane City Council, 1996.

Below Silvereye *Zosterops lateralis*, a small omnivorous bird of the south-west Pacific GEOFF WALKER

Kedron Brook's history of habitat restoration typifies the efforts of volunteers to restore habitat and create livable spaces from mountains to mangroves. Above Bell Miner *Manorina melanophrys* found in the headwaters NEIL FORDYCE and below Welcome Swallow *Hirundo neoxena* on the Bay GEOFF WALKER

Eastern Grass Owl *Tyto longimembris*. This stunning image of the Eastern Grass Owl was taken by Geoff Walker in 2015 with a Canon 100-400 MkII lens on a 7D at Kedron Brook wetlands near the Brisbane airport. The flash did not fire on demand every time, but then on one occasion everything went right and Geoff managed a perfect photo. Magic.