



Know Your River

Yarra River



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Foreword

Rivers and creeks are an important part of our lives. Whether we cycle or walk alongside them, row or fish in them, we love our local waterways.

Over the years, community attitudes and expectations for our rivers have changed. More people understand that we should no longer use our waterways as dumping grounds for industrial and domestic waste, and that development and farming should not be at the expense of our rivers.

At Melbourne Water, the way we manage rivers has also changed. Historically, most of our efforts were on controlling floods and carrying out engineering works to maintain the stability of river beds and banks.

Today, most of our efforts go into vegetation and habitat works. Our long-term goal is to ensure our rivers and creeks are healthy with increased numbers of native fish, platypus and plant life.

As the caretaker of river health in the Port Phillip and Westernport region, we believe everyone can do simple things to make sure our waterways are healthy.

We work with many inspiring people who are doing a great job looking after our rivers and the plants and animals that depend on a healthy river environment.

Caring for our rivers involves community, councils, developers, farmers and other government agencies. It is only by working together that we will achieve a sustainable water future.

Chris Chesterfield
General Manager, Waterways

What is this booklet for?

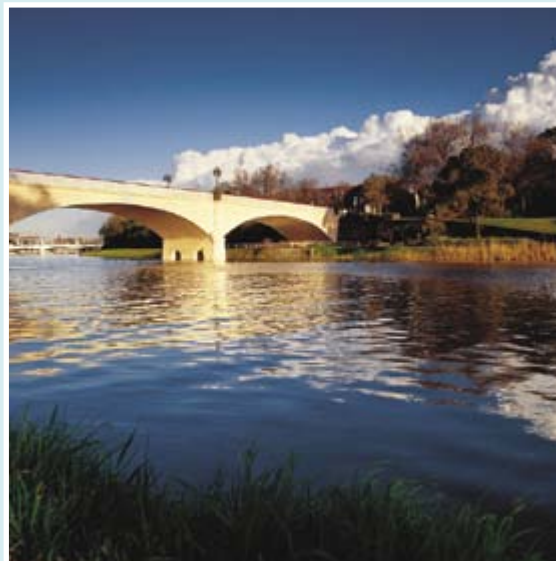
This is one of a series of booklets developed by Melbourne Water about the major rivers and creeks in the Port Phillip and Westernport region. In this booklet, you will find a variety of information about the Yarra River and its environment.

It will help you know and understand more about the river, the ecosystem it supports, its plants and animals, how it is affected by flooding and some of the challenges it faces. It will also help you, your family and friends care for the creek.

You can carry the booklet when you are exploring the Yarra or keep it as a reference at home.

Who is Melbourne Water?

Melbourne Water is owned by the Victorian Government. We manage Melbourne's water supply catchments, remove and treat most of Melbourne's sewage, and manage rivers and creeks and major drainage systems throughout the Port Phillip and Westernport region.



What is Melbourne Water doing to protect and improve rivers and creeks?

Our role is to improve the health, quality, amenity and community understanding of the region's waterways, to manage environmental flows and water quality, to provide an appropriate level of flood protection for communities, to support sustainable development, and to engage with our community.

Historically most of our efforts focused on flood management and engineering works to maintain the stability of bed and banks. Today we manage rivers and creeks to protect their environmental, social and economic values. Most of our work goes into revegetation and reviving habitat.

What you can do

Everyone has a role in protecting and caring for our rivers and creeks. You can get involved by joining Friends, Landcare or other volunteer groups. See melbournewater.com.au for contact details of groups in your area.

How you can reduce stormwater pollution, build a raingarden, Page 17.

How can I get more information about Melbourne's rivers and creeks?

For more information on how we are working with the community and others to improve the health of rivers and creeks, see melbournewater.com.au/riversandcreeks

Community champion

Ian Penrose – Yarra Riverkeeper and founder, Yarra Riverkeeper Association.



'I have always had an interest in the natural environment and what we now call sustainability. After working for 27 years in the petroleum industry, I led a Victorian Government program to restore the Snowy River. This convinced me that rivers in this part of the world are precious and under serious stress.

After retiring from full-time work in 2004, and in the spirit of "thinking global, acting local", I joined the Yarra Riverkeeper Association.

Our activities include monitoring the health of the Yarra and any developments through our regular boat patrols, water testing, speaking with river stakeholders, running community forums and tours, publicising and educating the public, schools and others while supporting other community groups and authorities that help the river.

The Yarra is Melbourne's most valuable natural asset, with its beautiful indigenous plants, animals, birds and fish.

It also plays a vital role in the social and economic wellbeing of the city: as a source of drinking water, in supporting productive agriculture and providing recreational opportunities such as rowing, paddling, fishing, bird watching, picnicking and walking.

But the Yarra faces a number of challenges including water quality, river flows and the preservation and revegetation of riverside habitat.

The community and authorities need to come together to take a closer interest in the Yarra's ecology. It's up to all of us to play our part to protect this special natural resource for generations to come.'

Discover your Yarra River

When Melburnians consider the Yarra River, they think of the last few kilometres flowing through the city. But the Yarra is much more than this. It flows 242 kilometres from headwaters to sea – from its source on the flanks of Mt Baw Baw in the Yarra Ranges National Park, north-east of Melbourne, through the Yarra Valley and greater Melbourne into Port Phillip Bay at Newport.

The upper sections of the Yarra and its main tributaries flow through forested, mountainous areas that have been reserved for water supply purposes for more than 100 years.

Most land in the middle and lower sections was cleared for agriculture and urban and industrial development, resulting in the erosion of the clay soils and the muddy colour of the river.

More than one-third of Victoria's population lives in the Yarra catchment, which spans about 4000 square kilometres.

The catchment includes 40 rivers and creeks of high or very high significance. The Yarra River between Warburton and Warrandyte has been identified as a Victorian Heritage River.

The lowest section of the Yarra is an estuary and salt water travels from Port Phillip Bay about 10 kilometres upstream.

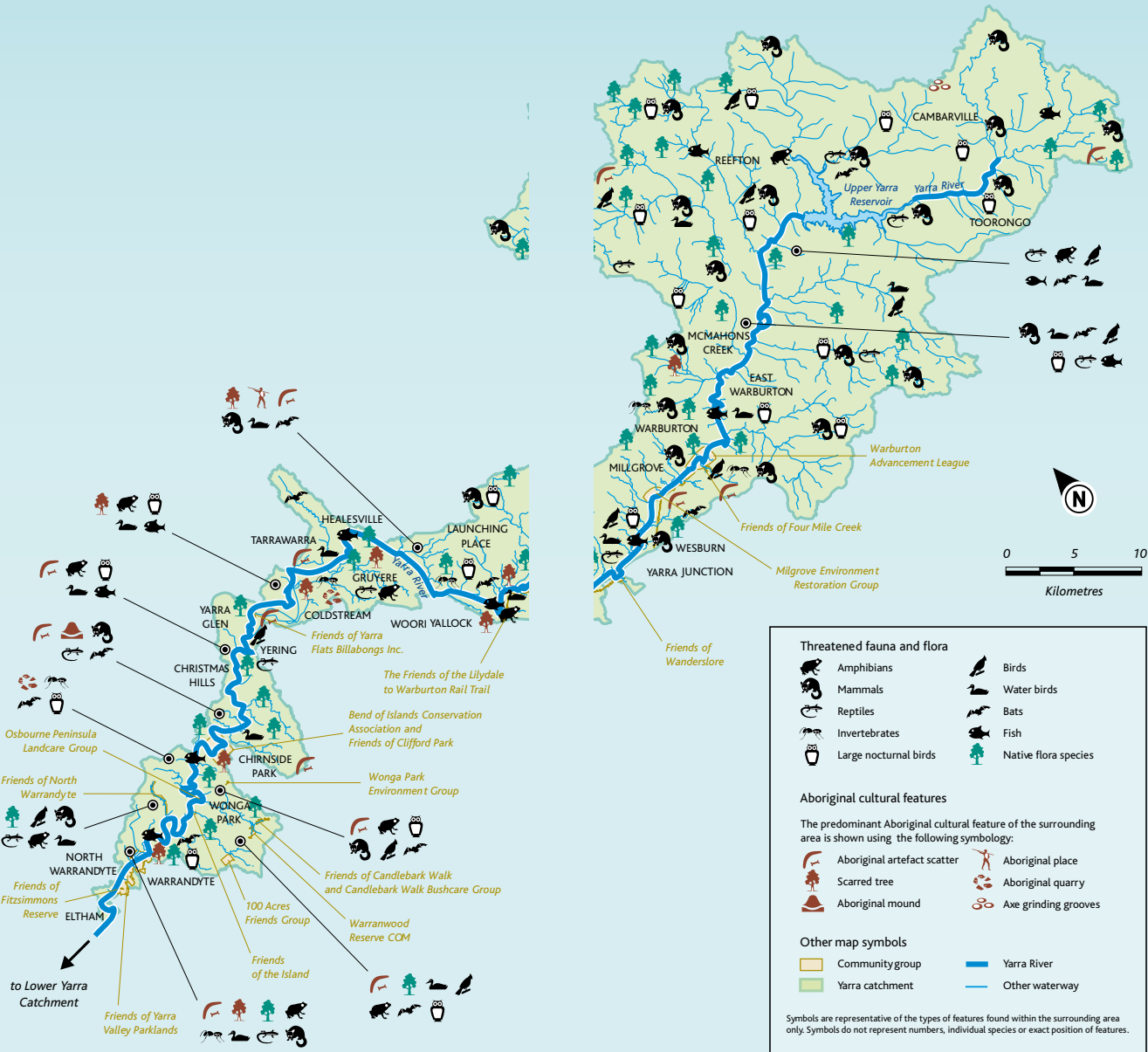
River health in the upper catchment tends to be excellent but rivers and creeks downstream are in poorer condition as a result of erosion, stormwater and other pollution, weeds and changes to land use and river flows.

Flows in the Yarra and many of its tributaries have changed significantly since European settlement because numerous water storages and farm dams have been built, and much water is extracted for agriculture.

In recent years, loss of habitat has been slowed through revegetation, erosion control and removal of barriers to fish migration. This has helped some animals, such as platypus, which have been found again in areas where they had disappeared.



Upper Yarra River map



Lower Yarra River map



Please note: Due to the map scale and the large number of Victorian heritage listed sites within this area, only a select number of heritage sites have been shown.

Threatened fauna and flora

Amphibians	Birds
Mammals	Water birds
Reptiles	Large nocturnal birds
Invertebrates	Fish
Bats	Marine mammals
Native flora species	

Aboriginal cultural features

Area contains Aboriginal cultural features. The predominant feature in the area is shown using the following symbology:

Aboriginal artefact scatter	Aboriginal place
Scarred Tree	

Other map symbols

Community group	Yarra River
Yarra catchment	Other waterway
Victorian heritage registered site	

Symbols are representative of the types of features found within the surrounding area only. Symbols do not represent numbers, individual species or exact position of features.

Yarra River in history

The Yarra was a vital part of Aboriginal life, yielding many resources and providing important places of spiritual and community activity such as birthplaces, ceremonial and burial grounds.

Many sites integral to Aboriginal culture remain, including Yarra Flats dreaming, the Heide Scar tree and Bolin Bolin Billabong (both in Bulleen).

The Wurundjeri people have been connected to the river for at least 30,000 years. They called it Birrarung, meaning "a place of mists and shadows". It became known as the Yarra in the 1830s after a surveyor misheard local Aborigines saying Yarro Yarro – meaning "it flows".

In 1835, Tasmanian farmer and aspiring landowner John Batman was the first white man to lay claim to the river.

Batman, who was acting on behalf of the Tasmanian-based Port Phillip Association, claimed he bought 500,000 acres of land, including the river, from the Wurundjeri in exchange for goods including blankets, tomahawks, knives, scissors, mirrors and handkerchiefs. The Wurundjeri believed that they had simply taken part in a friendship ceremony and were granting Batman leave to pass through their country.

The Yarra became the site of increasing colonial activity. By 1836, almost 200 settlers lived on the banks along with tens of thousands of sheep, and more settlers made their way from the north with cattle.

Fifteen years later, gold was discovered on a tributary of the Yarra at Warrandyte. Within 10 years the river of gold had pushed the region's population to more than 500,000, turning Melbourne into the biggest city in Australia.

But this growth came at a cost and the formerly pristine Yarra soon became one of the world's dirtiest rivers. In a town with no sewerage or waste systems, the river became the place where all things foul were disposed of. Its waters began to spread diseases such as diphtheria, dysentery, typhoid and scarlet fever.

The lower-lying suburbs such as Collingwood and Fitzroy became home to the poor while the wealthier chose the clean, higher southern banks.

In 1890, city planners locked up 100,000 hectares of land around the headwaters of the Yarra to protect the source. Over the next century, they built a series of dams to ensure a constant supply of clean drinking water. Planners also changed the shape of the river to protect the city from flooding (see Flood management, Page 16).

In 1897, the Western Treatment Plant at Werribee began treating sewage from Melbourne homes, resulting in considerable improvement to water quality in the Yarra and public health.

With the development of the Victorian Arts Centre, Melbourne began to reconsider its river, previously cut off from the city by the railway line. Developments such as Southbank, the Exhibition Centre, Federation Square and Docklands have transformed the waterfront.

The Aboriginal people had a deep connection with the river and its environment. While today our relationship is different, the river is highly valued and attracts millions of visitors a year to walk, ride, row, fish or picnic and camp.

Melburnians no longer turn their backs on the Yarra. Now it is an integral part of our lives.

The Yarra's history of flooding

Devastating flooding was a regular feature of the narrow, twisting original watercourse. The first flood was recorded in 1839. The biggest recorded flood – in 1891 – saw the water rise 14 metres higher than normal. It destroyed 200 houses in Collingwood and Richmond. The Yarra's last major flood was in 1934.

The river was widened and straightened in a series of works carried out from 1879 to reduce the risk of flooding. These works included a 20-year project to construct Coode Canal, which eliminated a wide loop west of today's Docklands and created Victoria Harbour and Victoria Dock.

Flood management

Melbourne Water is the floodplain manager for rivers and creeks in the Port Phillip and Westernport region. We monitor the rivers and creeks and drainage system to ensure it provides essential flood protection, and work to minimise flood risks to public health and safety, property and infrastructure.

Melbourne Water undertakes flood modelling and mapping to identify the extent of flood-affected areas. Development in these areas is controlled via the planning scheme (typically special building overlays or land subject to inundation overlays) to minimise the flood risks to new properties.

Melbourne Water monitors river levels and rainfall in the catchment using automatic rain gauges and water level monitoring stations. If flooding is predicted, we send warnings to the Bureau of Meteorology which are relayed to relevant councils and the State Emergency Service and broadcast in the media.

What can people do to help?

Flooding is a natural process and can happen at any time. It is essential that you check with your council before undertaking building works, and ensure that you comply with planning scheme requirements for your area.

Be aware of the potential for your property or home to flood. If you live on the floodplain, gather information about what type of flooding might affect you and compile a flood kit containing your valuables, such as photographs.

Keep as much of your property grassed (not paved) as possible to reduce run-off during storms and maintain a buffer from your local river or creek.

Stormwater and water quality

How stormwater pollutes rivers and creeks

In developed areas, rain that falls on roads, roof and pavements picks up contaminants such as pollutants, waste, nutrients and litter and runs down gutters and drains into our rivers and creeks. This water is known as stormwater and it represents a major threat to river health.

The rush of polluted water into rivers and creeks causes damage every time it rains. The volume and frequency of polluted stormwater mean that only the most tolerant organisms can live in the river or creek. In the worst cases, degraded rivers and creeks act more like drains than natural ecosystems, sending loads of pollutants straight to bays, estuaries and oceans.

How you can reduce stormwater pollution

There are simple things we can all do to minimise contaminants flowing into our rivers and creeks:

- › Service motor vehicles regularly and watch for leaking oil, brake fluid or other chemicals
- › Use fertilisers sparingly and lightly hose into the garden after application
- › Compost garden waste, especially lawn clippings
- › Use plants and landscaping on steep slopes to prevent topsoils washing away and reduce erosion
- › Pick up dog droppings and dispose of these of them in the compost or rubbish bin
- › Never dispose of paint or chemicals down stormwater drains
- › Place all litter in council-collected rubbish bins and ensure lids are secured and tight.

Storing rainwater in tanks and connecting them to appliances such as toilets and washing machines also reduces stormwater pollution and helps protect local rivers and creeks. And it is a simple way of conserving drinking water.

Build a raingarden

The best way to protect rivers and creeks from stormwater is to hold it back and let it slowly filter through the soil as it would in the natural environment. Raingardens are a simple solution to stormwater pollution. They resemble regular home gardens with one main difference – rainwater is directed into them from your downpipe or paved area.

Plants in a raingarden soak up water and nutrients in run-off from your roof, and the bed captures sediment. So raingardens reduce the stormwater and pollutants that would otherwise flow into the stormwater drain and your local river or creek. Raingardens also provide habitat for native birds, butterflies and even frogs.

For information on how to create a raingarden visit:

melbournewater.com.au/raingardens

What is water quality?

Water quality describes the condition of a river or creek and its suitability for different purposes (also known as environmental values). In a healthy river or creek, the water quality supports a rich and varied community of organisms, and sustains public health or agriculture.

What is the water quality of the Yarra River?

Water quality is good in the upper catchment but deteriorates downstream because of changes in land use such as agriculture and urban development.

Water quality in the Yarra has improved significantly since the 1970s and 1980s mainly because of diversion of industrial waste to the sewerage system and large-scale sewerage of Melbourne's suburbs. It now compares favourably with many metropolitan rivers overseas. But agriculture, population growth, urban development and the resultant stormwater pollution continue to have a direct impact on water quality.

What sites do we monitor?

Melbourne Water conducts water quality monitoring at seven sites along the Yarra. Our water quality monitoring program is designed to assess broad-scale, long-term trends in water quality (typically over eight to ten years).

Sites are sampled monthly, and tested for the following water quality indicators:

- › water temperature
- › dissolved oxygen
- › salinity (conductivity)
- › pH level
- › nutrients
- › faecal contamination (E. coli)
- › metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc).

Sites are located at:

- › McKenzie-King Drive, Millgrove
- › Don Road, Launching Place
- › Maroondah Highway, Healesville
- › Spadonis Reserve, Coldstream
- › Kangaroo Ground-Warrandyte Road, Warrandyte
- › Chandler Highway, Kew
- › Princes Bridge, Melbourne.

Wildlife of the waterways

The wildlife living in and around the Yarra River is diverse. One-third of Victoria's animal species are found in the Yarra catchment. Compared with the lower sections, the middle and upper sections of the river provide better conditions for animals because of higher water quality, less erosion, better and more continuous native vegetation and habitat.

Some of the animals you are most likely to see in the area are described on the following pages, but don't be surprised if you see even more!



Fish

Despite catchment changes, the aquatic and riparian habitat of the Yarra River is still of a high standard and supports a diverse community of fish.

A study of fish in the Yarra, conducted in 2007 and involving surveys at 43 sites along the Yarra River between Abbotsford and Millgrove, recorded more than 10,000 fish, comprising 22 species and two types of crayfish.

The most common species recorded in the survey were the native Australian Smelt, Common Galaxias and Short-finned Eels, and Roach, which is an exotic fish.

Other common fish were the Macquarie Perch (native), and Common Carp Redfin and Brown Trout (all exotic). About one-third of the fish caught were exotic species. Exotic fish compete with native species for available food and habitat, and injure or predate on native fish. More information is given about individual fish species in the section below.

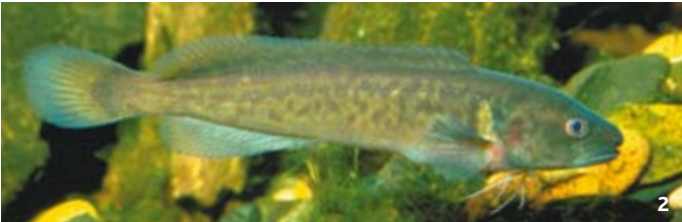
Fish barriers are another problem for native fish. Many native fish rely on upstream or downstream migrations to fulfil parts of their lifecycle. Barriers such as weirs can prevent these migrations and eliminate some species of native fish from some parts of the catchment.

Constructing a fishway is a method of allowing fish to pass one of these barriers. A fishway was constructed on the Yarra River at Dights Falls in 1995, and has increased the number of fish travelling to upstream reaches. A further six fishways have been constructed on Yarra tributaries and more are planned.

The Yarra River would naturally have been full of fallen trees and branches, because Australian trees typically last a long time in the water and sink once saturated. After European settlement, timber was pulled out of the river because it was considered a navigation and flooding hazard. It has since been discovered that timber does not significantly affect flooding levels, and is very important to many native fish, which use it for cover and breeding.



Fish



ROACH

RUTILUS RUTILUS

SIZE: COMMONLY UP TO 45CM

Roach were originally found most abundantly in the Yarra River system, but now are more widespread westward and also north of the Great Dividing Range in the Goulburn River system. They have a deep body with a small mouth and head, a blunt snout and a strongly forked tail with pointed tips. They are often silvery overall, but can be olive-green or dull bluish on the upper body. Roach are a 'nuisance fish' because they compete for space and food with other more desirable species. They are commonly eaten in Eastern Europe but not Australia.

RIVER BLACKFISH

GADOPSIS MARMARATUS

SIZE: COMMONLY 30-60CM

River blackfish have been found in the Yarra from Warrandyte to Warburton. These native fish prefer clear, gently flowing streams with abundant woody debris for cover and pebble or stone bottoms with little silt. They are nocturnal, non-migratory fish that usually dwell near the bottom. They eat insects, crustaceans, worms, small fish and fish eggs. Numbers have decreased considerably over the last century, probably due to exotic predators, redfin and brown trout.

SHORT-FINNED EEL

ANGUILLA AUSTRALIS

SIZE: COMMONLY UP TO 60CM (MALES), 90CM (FEMALES)

Short-finned eels are the most common fish species in the Yarra River. These native migratory fish have a long snake-like body and an even golden to olive-green colour. They are active at night and eat crustaceans, insects, yabbies, fish and frogs. All Short-finned eels migrate and breed at one site in the Coral Sea near New Caledonia. They spawn at depths of more than 300m before soon dying. The newly hatched young drift back to coastal areas on ocean currents.

SHORT-HEADED LAMPREY

MORDACIA MORDAX

SIZE: COMMONLY 35-40CM, MAXIMUM 50CM

Adults have an eel-like body and are bluish-grey overall and silver underneath. Their mouth is a round disc, with many rings of teeth. Young adults live in estuaries or at sea and eat trout, barracouta, black bream and mullet for one to two years. Short-headed lampreys access freshwater rivers such as the Yarra for spawning. They are found from Warburton to Abbotsford in very low and decreasing numbers, possibly because of prolonged low flows caused by drought.

Fish



AUSTRALIAN SMELT

RETROPINNA SEMONI

SIZE: COMMONLY 5-6CM

These small, slender, silvery fish are the most widespread in the Yarra. They prefer slow-flowing areas and can sometimes be seen swimming together near the surface or around plants or woody debris. They spawn in spring when each female lays up to 200 transparent and highly adhesive eggs. Australian smelt feed on insects and algae and are often eaten by larger fish in the Yarra River.

TUPONG

PSEUDAPHRITIS URVILLII

SIZE: COMMONLY 15-20CM, MAXIMUM 30CM

This is a very uncommon native fish in the Yarra. Tupong are migratory and may travel upstream but are mostly found below Dights Falls. Tupong are white with irregular dark brown blotches on their sides. They sit camouflaged on the river bed waiting to ambush smaller animals, feeding on crustaceans, molluscs, worms, insects and small fish. They migrate downstream in high winter flows and breed in marine or estuarine areas.

RAINBOW TROUT

SALMO GAIRDNERI

SIZE: UP TO 90CM

Trout were introduced into waterways in Australia for angling in the 1860's. There are now self-sustaining populations in the Yarra which feed on insects and smaller fish. Rainbow trout can be recognised by the spots on their tails. Trout are found in low numbers upstream of Warrandyte and high numbers upstream of Healesville. In this upper section, these highly predatory fish are a significant threat to many native fish such as galaxias, young River blackfish and Macquarie perch.

REDFIN PERCH

PERCA FLUVIATILIS

SIZE: UP TO 45CM

Redfin perch, considered by many people to be the best tasting fish in the Yarra, were introduced into Australian waters in the 1860s. The hardy fish live in billabongs, swamps and slow-flowing parts throughout the river especially around Yarra Glen and Millgrove. They have two characteristic red fins and dark vertical stripes along their silver body. These predators are considered a cause of reduced numbers of several fish species and feed on small fish, crustaceans, molluscs and insect larvae.

Fish



EASTERN GAMBUSIA

GAMBUSIA HOLBROOKI

OTHER NAME: MOSQUITO FISH

SIZE: 3.5CM (MALES),
6CM (FEMALES)

Eastern gambusia are most commonly found in the lower sections of the Yarra up to about Coldstream, and are very common in Dights Falls weir pool. The small fish are pale olive greenish becoming grey. Eastern gambusia are native to north and central American rivers. It is believed they were introduced into Australia in the 1920s to control mosquito populations but have made no significant difference except to other smaller native fish, eating their eggs and nipping their fins, and to native insects. They feed on rotting debris, insect larvae and pupae, fish eggs and fry (young stage of fish).

MURRAY COD

MACCULLOCHHELLA PEELI

SIZE: UP TO 1.8M LONG

Murray cod were introduced into the Yarra in 1909. They are a nationally endangered native fish occurring naturally in the Murray Darling system. By far the biggest freshwater fish in Australia, growing up to 1.8m, they prefer deep, slow-moving water with fallen logs and debris. They are found in the lower sections of the Yarra, with the greatest numbers found around Warrandyte where rock, wood and submerged plants provide good habitat.

MACQUARIE PERCH

MACQUARIA AUSTRALASICA

SIZE: COMMONLY TO 25CM,
UP TO 46CM

Macquarie perch are a nationally endangered species. The Yarra population was introduced for angling from the Goulburn River between 1912 and the 1940s. Now it is one of only three self-sustaining populations in Victoria and potentially the most significant in Australia. Macquarie perch are found throughout the Yarra, with most found between Fairfield and Warrandyte especially near Warrandyte Gorge. They prefer slow-flowing water with deep rocky pools and feed on invertebrates. Macquarie perch migrate to shallow upland rivers and creeks and lay eggs among gaps in rocks.

EUROPEAN CARP

CYPRINUS CARPIO

SIZE: COMMONLY 50-65CM

European carp are very common throughout the Yarra and have been found in very high numbers near Heidelberg. They are considered a major pest because they create environmental damage by sucking up sediments and uprooting plants to filter out invertebrates, making the water very turbid. Eradication of the fish is complex and costly. Carp can survive low and high temperatures and very low oxygen content. A female can produce up to one million eggs.

Fish



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SOUTHERN PYGMY PERCH

NANNOPERCA AUSTRALIS

SIZE: UP TO 8.5CM
(COMMONLY 6CM)

These small fish are food for larger animals such as turtles, birds, other fish and frogs. They are usually pale golden with greenish-brown mottling and a silver belly and were recorded in large numbers in the upper reaches of the Werribee River in 2006. They were previously recorded in the 1980s. Their diet consists of small crustaceans, insects and their larvae.

COMMON GALAXIA

GALAXIAS MACULATUS

OTHER NAME:
COMMON JOLLY TAIL

SIZE: UP TO 19CM
(COMMONLY 10CM)

Common galaxias are plentiful in the Yarra system. They are found in very high numbers downstream of Dights Falls, but are also found in reasonable numbers up to Warrandyte Gorge. Galaxias, which can tolerate fresh to saltwater, eat terrestrial insects from the water surface, aquatic insects and crustaceans. They are coloured olive-grey to amber, with variable mottling on their sides. Adults move downstream to estuaries to spawn and young spend the first six months at sea.



Birds

The Yarra River traverses an enormous range of habitats from the pristine forested catchments through a range of agricultural lands and then through dense urban areas which mean that the birdlife along its course is highly diverse. Over 190 species of birds inhabit the Yarra River including insectivorous, honeyeaters, birds of prey, seedeaters, songbirds and waterbirds. They use the river and its wetlands for feeding, nesting and breeding.

Iconic species found along the lower Yarra include Great Egret, Azure Kingfisher, Nankeen Night Heron and the Little Pied Cormorants. The Laughing Kookaburra is another iconic species you are likely to see. Some of these species such as the White-faced Heron and the Nankeen Night Heron are classified as regionally significant.

Common species include the Pacific black duck, Eurasian coot and Australian pelican. Latham's Snipe is a migratory bird that travels from the mountains of northern Japan to areas along the Yarra River over the summer months.

A small selection of these birds are included here.



Birds



LITTLE PIED CORMORANT

*PHALACROCORAX
MELANOULECUS*

SIZE: UP TO 55CM

Little pied cormorants are commonly found in the Yarra. They have a yellow or brownish yellow bill without a black patch on their flank (as opposed to pied cormorants which have a black patch on their flank). These birds are often observed alone but can be seen in flocks. They make bulky stick nests decorated with dead leaves and feed on small fish once daily.

DUSKY MOORHEN

GALLINULA TENEBROSA

SIZE: UP TO 38CM

Dusky moorhens are one of the most common waterbirds. They are naturally shy, but have become tame in city parks. All too often in urban areas they are eaten by domestic dogs and cats. They feed on aquatic plants, insects and small animals such as frogs.

PACIFIC BLACK DUCK

ANAS SUPERCILIOSA

SIZE: UP TO 60CM

These are more brown than black, and are our most common ducks. They feed by dabbling, dredging and upending vegetation as they search for aquatic plants and animals. They make themselves at home on ornamental ponds, and breed along suburban creeks. In flight, you can see their brilliant green wing patch.

MASKED LAPWING

VANELLUS MILES

OTHER NAME:
SPURWING PLOVER

SIZE: UP TO 35CM

Masked plovers are brown above and white below with prominent yellow facial wattles, wing spurs, a black crown and flight feathers. They prefer grasslands, mudflats and urban park habitats and are recognisable by their 'kerr-kick-ki-ki-ki' call.

Birds



BLACK-SHOULDERED KITE

ELANUS NOTATUS

SIZE: UP TO 38CM

These kites have dramatically contrasting silver-grey and black plumage, and are commonly seen gliding and hovering over grassland in search of lizards, birds, insects and other small animals. On spotting their prey, they drop, talons extended, in readiness for the kill.



WHITE-FACED HERON

EGRETTA NOVAEHOLLANDIAE

SIZE: UP TO 70CM

These are one of the most common heron in Australia. They are mostly light blue-grey with a characteristic white face, long, slim neck and a pointed grey-black bill. They feed mostly on fish, insects and amphibians, disturbing their prey among damp crevices or simply standing in the water and watching for movement. Normally only one brood of three to four young is raised a year.



STUBBLE QUAIL

COTURNIX PECTORALIS

SIZE: UP TO 18CM

The stubble quail looks somewhat like a small football with head and legs. These birds are seldom seen but their high-pitched whistle is a clue to their presence. When disturbed, they prefer to escape through grass, but if hard pressed, they will take to the air with short bursts of whirling flight.



AUSTRALIAN KESTREL

FALCO CENCHROIDES

SIZE: UP TO 35CM

The delicately marked Australian Kestrel is one of our smallest birds of prey. Ever watchful, they use the vantage point of trees or buildings to keep vigil over their domain. They hover, motionless, except for rapidly beating wings while searching for insects, lizards, small birds and mammals. The females are larger than the males.

Birds



WELCOME SWALLOW

HIRUNDO NEOXENA

SIZE: UP TO 15CM

Unlike most other native birds, these swallows have welcomed clearing and settlement. They use house eaves, culverts or even mineshafts as homes for their cup-shaped mud nests. You can often see swallows at close range gracefully cruising a few metres above the ground, catching insects on the wing.

FAIRY MARTIN

HIRUNDO ARIEL

SIZE: UP TO 12CM

Fairy martins are smaller and more thickly set than swallows and can be recognised by their squared-off tails and gleaming white rumps. They feed on flying insects usually taken over water and dip down to take water 'on the wing' as well. Their bottle-shaped nests are built from mud and often constructed communally.



DUSKY WOODSWALLOW

ARTAMUS CYANOPTERUS

SIZE: UP TO 18CM

Up to 100 dusky woodswallows may form a tight swarm on a tree branch as they settled down for the night. They do this by clinging to the shoulders and wings of the bird below. Sometimes you can see them huddling together like this on a chilly day. These summer migrants return each year to breed.



BLACK-FACED CUCKOO-SHRIKE

CORACINA NOVAEHOLLANDIAE

SIZE: UP TO 33CM

These migratory birds they head to warmer areas for the winter and return to the same territory each spring to breed. Black-faced cuckoo-shrikes alternately flap and glide, making their flight distinctively undulating. They often build such small nests that their young are blown out in high winds.

Birds



NOISY MINER

MANORINA METANOCEPHALA

SIZE: UP TO 28CM

Other birds entering the territory of a Noisy miner colony quickly find themselves driven out again by a very hostile mob. They seem to thrive in the suburbs wherever there are large eucalypts with open grassy areas nearby. These cheeky honeyeaters live in colonies where males outnumber females.

SACRED KINGFISHER

HALCYON SANCTA

SIZE: UP TO 23CM

Despite the name, this Kingfisher rarely catches fish and is often found well away from water. These birds are more readily heard than seen, and utter a persistent 'ak-ak-ak-ak' call during the breeding season. They breed in spring after migrating from northern Australia or Asia. A beautiful sight through binoculars, these Kingfishers build nests in tree hollows and sometimes in river banks.



WHITE-PLUMED HONEYEATER

LICHENOSTOMUS PENICILLATUS

SIZE: UP TO 19CM

These lively birds are often seen in small parties flitting through trees catching insects. They have a strong affinity for red gums. White-plumed honeyeaters are one of the few native birds which have adapted well to suburban gardens, especially those with native plants.



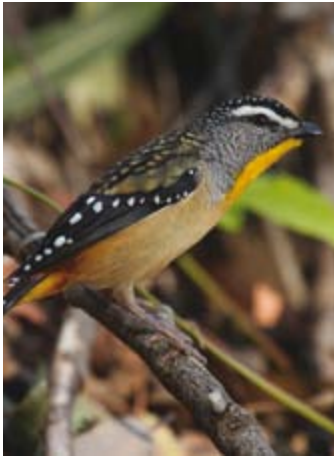
YELLOW-RUMPED THORNBILL

ACANTHIZA CHRYSORRHOA

SIZE: UP TO 12CM

The merry tinkling of this bouncy and bold little bird can often be heard. Never very far from the protection of bushes, small parties can often be seen on the ground feeding on seeds and small insects. Nests are untidy domed structures with a false nest on top. Yellow-rumped thornbills may have two or more clutches per season.

Birds



SUPERB FAIRY-WREN

MALURUS CYANEUS

SIZE: UP TO 14CM

These chirpy little birds live in family groups, with the dominant male brilliant blue. Their nests are dainty grass balls with a side entrance, woven with spider webs and lined with finer grass and feathers. Older members of the group help care for the young. Always a delight to see, Fairy wrens are common in bushland along the river and creek banks.

EASTERN YELLOW ROBIN

EOPSALTRIA AUSTRALIS

SIZE: UP TO 15CM

These plump, delightful little birds are inquisitive and often come close to people. They feed mainly on the ground but have a habit of clinging sideways to tree trunks while watching intently for ants or other insects below. Yellow Robins build cup-shaped nests of bark strips woven together with spider webs, decorating the outside with lichen and moss.

SPOTTED PARDALOTE

PARDALOTUS PUNCTATUS

OTHER NAME: DIAMOND BIRD

SIZE: UP TO 9CM

The friendly three-note call of these active little birds usually gives away their presence as they feed in the treetops. Spotted pardalotes breed in burrows excavated into creek banks or cliffs. They have also been known to use nest boxes and hanging baskets. They are brightly coloured with jewel-like white dots.

FLAME ROBIN

PETROICA PHOENICEA

SIZE: UP TO 4CM

There is something enchanting about the jaunty appearance of flame robins. They like to perch on low vantage points, ever alert for insects which they take on the ground. Only the adult male has the brilliant red breast; females and juveniles are grey-brown. These robins come down from the mountain ranges to spend winter in milder areas.

Birds



EASTERN ROSELLA

PLATYCERCUS EXIMIUS

SIZE: UP TO 30CM

Just about every Australian recognises the 'tomato sauce birds'. They depend on nesting hollows in old or dead trees, and have been known to nest in small hollow logs on the ground and on farm fence posts. Unmistakeable and brilliantly coloured, these Rosellas are found mainly in open woodland.



RED-RUMPED PARROT

PSEPHOTUS HAEMATONOTUS

SIZE: UP TO 27CM

Truly gorgeous birds, red-rumped parrots are plentiful in their ideal suburban environment of open grassland fringed by red gums. Aggressively introduced birds such as starlings compete with them for nesting sites. The male is brightly coloured and the female, a dull green, is well camouflaged.



YELLOW-TAILED BLACK COCKATOO

CALYPTORHYNCHUS FUNEREUS

SIZE: UP TO 56-66CM

These birds are the largest of our Australian cockatoos. They have very long tails, slow-beating wings and a raucous call. These cockatoos listen intently for grubs moving inside trees and catch them by tearing away the bark with their massive bills.



NANKEEN NIGHT HERON

NYCTICORAX CALEDONICUS

SIZE: UP TO 60CM

This wetland hunter seems to favour man-made parks. Essentially a bird of the night, you may be lucky enough to spot one snoozing in a leafy tree during the day or gracefully winging along a river or creek at dusk. They are 'ambush predators' – feeding on small fish, frogs, insects, tadpoles and crustaceans.

Birds



SOUTHERN BOOBOOK

NINO NOVAESEELANDIAE

SIZE: UP TO 30CM

These owls are renowned for their 'boo-book' call. With large eyes, excellent hearing and near silent flight, they are superb night hunters. Through the day, they roost in leafy trees to hide from small day-active birds that might otherwise mob them. Boobooks can often be seen during evening spotlight walks.



RESTLESS FLYCATCHER

MYIAGRA INQUIETA

SIZE: COMMONLY 16-21CM

The Restless Flycatcher has a glossy blue-black head and back, and white underparts with a soft yellow breast. It appears similar to a Willy Wagtail and can be distinguished by the white throat. It feeds on insects, spiders and centipedes. Restless flycatchers build a small cup-shaped nest of bark and grass bound with spider webs, camouflaged with pieces of lichen and bark, and placed in an exposed position on a tree branch, often near or above water.



Frogs

In Australia, we have three main native frog families. They are the *Myobatrachidae* (or ground frogs), the *Hylidae* (tree frogs), and the tropical *Microhylidae*. Ten frog species have been recorded in the Melbourne Water Frog Census as making their home along the Yarra River. Some of these frogs are the Eastern Froglet, Persons Tree Frog, Southern Toadlet and the Dwarf Tree Frog.

With their distinctive calls and croaking, frogs are mostly heard before they are seen. Many parts of the Yarra River provide the perfect habitat for these amphibian species, with plenty of diverse wetlands to breed, feed and shelter from prey.

Various community groups and schools are involved in restoring frog habitat to ensure survival, however we all need to participate. Frogs are extremely sensitive to toxins and by limiting the nasty substances entering the stormwater drains; our frog populations may stand a chance.



Frogs



STRIPED MARSH FROG

LIMNODYNASTES PERONII

SIZE: UP TO 7CM

Found throughout the Yarra catchment, these frogs feed on almost any animal smaller than themselves, including other frogs. Their reproduction season is from August to March and tadpoles can be found all year around. Eggs are contained within a foam raft concealed in reeds, rushes and other aquatic vegetation. Tadpoles are usually light brown or silvery grey. Adults range from pale fawn to golden-brown.

POBBLEBONK

LIMNODYNASTES DUMERILII

OTHER NAMES:
SOUTHERN BULLFROG OR
EASTERN BANJO FROG

SIZE: UP TO 8CM

The pooblebonk, which may be found in large numbers following rain, is common in the Yarra catchment. Two sub-species occur around Melbourne. The sub-species found north and west of Melbourne is a relatively uniform dark brown; and the sub-species east and south of Melbourne has a pale stripe running down its back and more variable colour. Males call from August to April and may migrate up to one kilometre to reach breeding sites.

WHISTLING VERREAUX'S TREE FROG

LITORIA VERREAUXI

SIZE: UP TO 4CM

These frogs are common in the Yarra catchment and their call is a rapidly repeated burst of 10 to 20 short notes with an almost whistling quality. These frogs feed on small invertebrates and reproduce from August to March. The tadpoles are pale yellow to dark grey with clear fins. Adults have large dark or black patches on the sides and in the groin, usually on a yellow background.

GROWLING GRASS FROG

LITORIA RANIFORMIS

SIZE: UP TO 6.5CM (MALE)
AND 10CM (FEMALE)

With a distinctive growl that lasts about one second, the growling grass frog is also known as the Green and Golden frog, Southern bell frog and Warty swamp frog. The growling grass frog emits a secretion through its skin that can have a toxic effect on other animals and irritates human skin. The population of this species has fallen into serious decline over recent years through loss of habitat and is an endangered species.

Frogs



BROWN TREE FROG

LITORIA EWINGII

OTHER NAMES:
SOUTHERN BROWN TREE FROG,
EWING'S TREE FROG AND
THE WHISTLING TREE FROG

SIZE: UP TO 4.5CM

This species is an insectivore with a voracious appetite and is capable of catching a fly in mid-flight. These frogs, which breed all year round, are common and widespread in greater Melbourne. Adults can be found in all habitat types, and are even common in gardens in suburban areas. They frequent wet and flooded areas for breeding but can often be found calling long distances from water.

SPOTTED MARSH FROG

LIMNODYNASTES PERONII

OTHER NAMES:
SPOTTED FROG AND
SPOTTED GRASS FROG

SIZE: UP TO 4.7CM

A very common species, the spotted marsh frog is distinguishable by a mid-back stripe and blotched patches on each side of the stripe. Males call while floating on the water surface and the breeding season is from August until May. This frog is identified by a yellow, red or orange mid-dorsal stripe that appears among olive-green blotches.

Mammals

With its diverse range of native plants and an abundant water source, the Yarra River is inhabited by a large variety of mammals. Within a 50 metre radius of the river there are 38 different known species including rats, bats, gliders, bandicoots, rabbits, hares and foxes. Hollows formed by many of the trees growing along the waterway, especially Eucalypt species, are home to many creatures.

While iconic Australian animals such as the koala and the eastern grey kangaroo can often be viewed feeding and grazing along the river bank, people may be unfamiliar with other mammal species that call the area home.



Mammals



PLATYPUS

ORNITHORHYNCHUS ANATINUS

SIZE: UP TO 60CM

This unique mammal is a valuable indicator of the health of aquatic ecosystems. Platypus live in rivers and creeks across much of eastern Australia, including the Yarra River. They feed on a wide range of benthic (or bottom-dwelling) macroinvertebrates, along with yabbies, worms, shrimp and small shellfish. Males tend to be larger than females.

SHORT-BEAKED ECHIDNA

TACHYGLOSSUS ACULEATUS

SIZE: UP TO 45CM

These curious egg-laying mammals live a solitary life with no fixed address and few dietary requirements other than some ants or termites, and a log or bush for shelter. When in danger they dig down, baring an uninviting wall of quills to the enemy. Echidnas are 'true-blue' Australians and should not be confused with porcupines or hedgehogs, neither of which occurs naturally in this country.

KOALA

PHASCOLARCTOS CINEREUS

SIZE: UP TO 14KG

Taking advantage of the bush along the Yarra, these cherished little 'Aussies' are gradually making their way downstream from Warrandyte into other Melbourne suburbs. Templestowe residents have heard the loud grunting calls of male koalas. Dogs and traffic are the major threat to their survival in urban areas. Koalas have upside down pouches and their young weigh less than half a gram when born. Males tend to be larger than females. They are nocturnal, most active just after sunset and live for up to 20 years in the wild.

COMMON RINGTAIL POSSUM

PSEUDOCHEIRUS PEREGRINES

SIZE: HEAD-BODY UP TO 35CM, TAIL UP TO 35CM

If you visit the bush at night you might hear Ringtail possums leap around in search of food. They use their white-tipped tails as a fifth limb to manoeuvre through the treetops. Ringtails usually build neat ball-shaped nests of shredded bark and grass in dense bush but will take to nesting boxes. These possums have not fared as well as brushtail possums in the city and often fall victim to cats.

Mammals



COMMON BRUSHTAIL POSSUM

TRICHOSURUS VUPECULA

SIZE: HEAD-BODY UP TO 50CM,
TAIL UP TO 40CM

People often regard these beautiful native animals as pests because they live in house roofs and create a terrible din. But 'brushies' have to be admired. They are perhaps the only native mammal that copes well with the stresses of urban living. A medium-sized, thick-set, nocturnal and arboreal marsupial, they have grey fur on the head, back and sides. Black fur around the eyes, muzzle and sometimes along centre of forehead. Their belly is pale grey to yellowish or white.

SUGAR GLIDER

PETAURUS BREVICEPS

SIZE: HEAD-BODY UP TO 21CM,
TAIL UP TO 20CM

Sugar gliders are beautiful and delicate animals, and have survived wherever there is enough food, suitable bush and hollows for breeding. The sap from black or silver wattle trees is one of their favourite foods, especially in winter when insects and flower blossoms are scarce. Equipped with a membrane of skin that extends from their forelimbs to hind feet, these silent and nervous possums can glide up to 40 metres between trees.

FEATHERTAIL GLIDER

ACROBATES PYGMAEUS

SIZE: HEAD-BODY UP TO 8CM,
TAIL UP TO 8CM

Feathertail gliders are small, shy and rarely seen. They can glide up to 20 metres. Their most striking feature is the feather-like arrangement of stiff hairs running on both sides of the tail. This helps them steer, brake, anchor and balance. Often eaten by cats, these quaint mouse-size marsupials are rare around Melbourne.

EASTERN GREY KANGAROO

MACROPUS GIGANTEUS

OTHER NAMES: GREAT GREY KANGAROO, FORESTER

SIZE: ABOUT 1.4M (STANDING)

These kangaroos have grey-brown upper parts with pale grey or white underneath. The males (up to 66kg) are twice the weight of females (up to 37kg) and are more heavily developed in the chest and forearms. They are widespread and common throughout eastern Australia, including sections of the Yarra River. They are most active at dusk and dawn and gather in large mobs where food is abundant.

Mammals



BROWN ANTECHINUS

ANTECHINUS STUARTII

SIZE: HEAD-BODY UP TO 9.5CM,
TAIL UP TO 9CM

This mouse-sized forest-dwelling marsupial leads a short and hectic life. When about 11 months old, males aggressively search for females with whom they mate for up to six hours at a time. All males die soon after. Females may live for another year. If a mouse was left in a cage overnight with one of these ferocious little marsupials, probably all that would remain in the morning would be a fat and content antechinus.

BRUSH-TAILED PHASCOGALE

PHASCOGALE TAPOATAFA

SIZE: HEAD-BODY UP TO 2CM,
TAIL UP TO 2.1CM

These beautiful, rat-sized marsupials inhabit dry open forest where, with dazzling speed, they hunt for insects, spiders and centipedes. Through the day Brush-tailed phascogale rest in cosy nests in tree hollows. They are listed as rare and restricted wildlife. One reason for the species' decline is the loss of old-growth forest areas, where old, hollow trees provided places for the phascogales to build nests; up to 20 nests may be utilized by each individual per year. Breeding also predominately occurs within tree hollows.



WHITE-STRIPED MASTIFF-BAT

TADARIDA AUSTRALIS

SIZE: HEAD-BODY UP TO 9CM,
TAIL UP TO 5.5CM

Mastiff-bats are the high fliers of our local bats. They feed on aerial insects while cruising well above the treetops. Their call, usually a piercing sound, speeds up as the bat homes in on a victim. This combined 'cruising and feeding buzz' can be easily heard by most people. (Most bat calls are beyond our hearing range). These mastiff-bats have 'sporty' white stripes under their wings.

COMMON BENT-WING BAT

MINIOPTERUS SCHREIBERSII

SIZE: HEAD-BODY UP TO 5.8CM,
FOREARM UP TO 5CM

The common bent-wing bat is an insectivorous cave-dwelling bat. The subspecies has dark reddish-brown to dark-brown fur on the back, grey-brown fur underneath and pale brown areas of bare skin. These wonder-bats may fly more than 20km a night and travel 1200km a year to reach maternity caves where up to 30,000 pregnant females congregate to give birth. Each year the females return to the same site. During the day they most likely roost in old mine shafts further upstream. They are listed as endangered under the Advisory List of Threatened Vertebrate Fauna in Victoria 2003.

Mammals



LESSER LONG-EARED BAT

NYCTOPHILUS GEOFFROYI

SIZE: HEAD-BODY UP TO 5CM,
FOREARM UP TO 4.1CM

A slow fluttery flier, these bats can look like a large moth in flight. They have short-range echolocation (detecting objects via reflected sound) and usually hunt low in trees, gleaning insects from leaves. They breed in spring or summer. Lesser long-eared bats roost in hollows and fissures in old trees, under bark, in old fairy marten nests, and in occasionally in caves. They often roost in ceilings, hollow walls, unused roller doors and canvas awnings in suburban and inner-city areas. They prefer hollows of big old eucalypts for nursery colonies.



RAKALI OR WATER RAT

HYDROMYS CHRYSOGASTER

SIZE: UP TO 30CM

This native mammal is highly adapted to aquatic life. Its upper parts vary from grey-brown to rich golden brown to blackish. Underneath it is cream to golden-orange. Water rats have a distinguishing broad white tip on the end of their tail. Widespread and common in much of coastal Australia, they have been recorded in the Upper Maribyrnong catchment. Most active at night, they hunt prey such as fish and frogs in the water before bringing them onto land to eat.



Reptiles

Approximately 16 reptile species are known to inhabit the Yarra River including skinks, turtles, snakes and lizards. They can often be found seeking shelter amongst leaf litter, grasses and under rocks and logs. They are important in controlling pest populations such as rodents and insects. Care should be taken to avoid destroying the groundcovers that maintain their habitat.

The most iconic aquatic reptile that lives along the Yarra River corridor is the Eastern Long-necked turtle. This common and widespread species can often be seen in still water bodies such as lakes and billabongs.



Reptiles



EASTERN LONG-NECKED TURTLE

CELODINA LONGICOLLIS

OTHER NAMES: COMMON LONG-NECKED TORTOISE, SNAKE-NECKED TURTLE

SIZE: UPPER SHELL LENGTH UP TO 25CM

This turtle belongs to a group that fold their head sideways under the edge of their shell rather than pulling their head directly backwards into their shell. They are the most common and widespread turtle in Australia but did not naturally occur in the Melbourne region. Large numbers were imported as pets from the Gippsland Lakes in the 1950s and 1960s and Melbourne populations, now common and widespread, are thought to have started from released pets. It is also the coldest adapted freshwater turtle in Australia, and is believed to hibernate during winter in Melbourne.

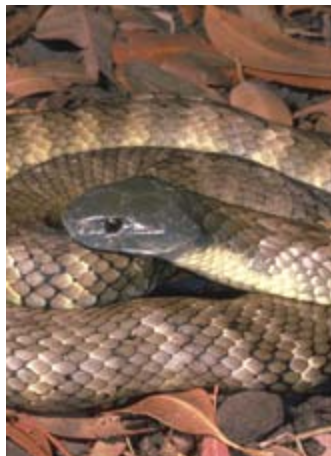


COPPERHEAD SNAKE

AUSTRELAPS SUPERBUS

SIZE: UP TO 160CM (COMMONLY 120CM)

Copperheads, which can be active in cool weather, commonly hunt at night. Although venomous, they are not aggressive snakes and will strike only if cornered. They prefer damp areas, and are usually seen in grass tussocks, rotting logs and tree roots. Copperheads vary in colour, but can be distinguished by pale areas on the side of the face. They have been recorded up to 160cm long.



TIGER SNAKE

NOTECHIS SCUTATUS

SIZE: UP TO 170CM LONG (COMMONLY UP TO 120CM)

These snakes are highly venomous and have a reputation for being aggressive. They are usually found on the ground near water but can also hunt in trees. Tiger snakes are active during the day and their diet includes frogs, lizards, birds and mammals. They are widespread in southern Australia, favouring cool moist areas such as swamp edges and creek banks, and have been recorded up to 170cm long.



WHITE-LIPPED SNAKE

DRYSDALIA CORONOIDES

SIZE: UP TO 40CM

These attractive little snakes feed on lizards almost exclusively. The pregnant females often drop their young near a source of food such as a nest containing baby skinks. They are venomous but not considered dangerous to humans, and are most often seen around rivers and wetlands. They are readily identifiable by the presence of a conspicuous white stripe along the upper lip. The back colour is variable, from brick-red, through to olive-green or dark grey, while the belly is usually a salmon pink colour.

Reptiles



SWAMP SKINK

EGERNIA COVENTRYI

SIZE: UP TO 25CM

Swamp skinks vary between shades of greenish-brown, olive-brown or yellow-brown. They restrict their habitat to densely vegetated swamps and associated watercourses, and adjacent wetlands and grasses. They can be found basking on fallen timber, driftwood, sedges and tussocks, and feed on small invertebrates. Mating occurs in October with live offspring produced (rather than eggs). Swamp skinks are relatively rare in the Yarra catchment and are listed as 'vulnerable' in the Flora and Fauna Guarantee.

SOUTHERN WATER SKINK

EULAMPUS TYMPANUM

SIZE: UP TO 22CM

The upper parts of these medium-sized skinks are a glossy bronze with numerous scattered blackish scales. The pattern is reversed on the flanks, with a broad band of black with scattered golden-bronze scales. They frequently bask on dead logs, branches and fallen tree trunks, which they also use as shelter, and feed on a variety of invertebrates.



GRASS SKINK

LEPIDODACTYLUS ENTRECASTEAUXII

SIZE: UP TO 12.5CM

You might see them during the day basking on a log or scurrying among fallen timber and leaf litter. They are active by day, sun loving and feed on small invertebrates. Females give birth to a maximum of eight young late in summer. They are a medium sized skink, with a ground colour varying from olive to dark brown. It has a dark stripe down the back and a pale stripe a scale wide running from behind the ear to the tail.

GARDEN SKINK

LAMPROPHOLIS GUICHENOTI

SIZE: UP TO 10CM

Garden skinks form social groups unlike most reptiles. You can often see these vividly patterned skinks darting around Melbourne's parks and gardens on sunny days. They have a flecked back and strong black and white stripes. These skinks are small and nimble, and breed in spring. Well-hidden communal nests can contain up to 200-300 soft leathery eggs. Each female lays only two or three eggs.

Reptiles



EASTERN BLUE TONGUE

TILIQUA SCINCOIDES
SCINCOIDES

OTHER NAME:
COMMON BLUE TONGUE

SIZE: UP TO 56CM

These lizards usually have six to nine pale bands between the nape (back of neck) and hips and up to 10 bands on the tail. Despite their slow movement and large size, they thrive in urban areas. They are active during the day, sheltering under logs in vegetation and burrows, and feed on fruit, flowers, foliage, arthropods, snails, eggs and small vertebrates. They inhabit virtually all habitats throughout eastern Australia.

JACKY LIZARD

AMPHIBOLURUS MURICATUS

SIZE: COMMONLY UP TO 32CM

These lizards are sometimes called Tree Dragons because they can scurry up trees, but they usually live on the ground. Unlike geckos and skinks, Jacky lizards cannot grow new tails. When threatened, they gape to reveal a bright yellow tongue and mouth to try to frighten enemies. If this fails, they can stand on their hind legs and run.



Bugs and Insects

As with any extensive waterway system, the Yarra River is the perfect habitat for a great variety of bug and insect species. And while these species have an abundant food supply, larger animals such as birds will prey on these creatures when searching for a quick snack.

Insectivorous birds will feast on bugs and insects in the same way that honeyeaters will gorge on the flowers of nectar-producing plants that make up a large portion of the native flora lining the banks of the Yarra. You'll need to look closely at the bugs and insects common to the Yarra because they are not only small, but quick as well.



Bugs and Insects



KILLER MAYFLY

GENUS *MIRAWARA*

SIZE: MORE THAN 2CM

This mayfly can be caught in the upper reaches of the Yarra. Adults have robust yellow-brown body with purple-pink wings and are found from October to April. The aquatic nymphs have large heads and robust bodies. Gills are plate like and the cerci have dense hairs that help to propel the nymph through the water. Nymphs live in fast-flowing riffles and are very sensitive to water quality.

DOBSONFLIES

MEGALOPTERA
ARCHICHAULIODES

SIZE: 30MM

Found in the upper reaches of the Yarra, these are active predators in fast-flowing waters. The aquatic larva have long filaments on their abdominal segments and strong jaws. Female dobsonflies may lay up to 3000 eggs on rocks or debris close to the stream but not in the water. When the larvae hatch they enter the water and live a permanently aquatic life until they are ready to pupate. At this stage the larvae move out of the water into the adjacent leaf litter or soil where they pupate for several weeks. The complete life cycle may take only one year in warmer areas or up to 5 in colder climates.

LESSER WATER STRIDER

VELIIDAE *MICROVELIA*

SIZE: 2MM

Found at the edges of the channel and in slow-flowing water throughout the Yarra. The adults have winged and wingless forms and live on the surface of the water, using hydrophobic hairs on their 'feet'. They are active predators and use the ripples to detect small insects falling on the water surface. Many individuals, sometimes from different species, often combine their effort to overpower a much larger prey.

COMMON BLUETAIL DAMSELFLY

ISCHNURA HETEROSTICTA

SIZE: UP TO 30-40MM

Preferring slow running or still waters, this species of damselfly is common throughout Australia. Although their colouring is pale and diffused, the male is identifiable by the vivid blue on its body and tail. They are easily recognised and commonly seen around bodies of fresh water or in open areas such as parks and gardens. These insects belong to an ancient order. Dragonfly fossils have been found that are up to 220,000,000 years old and the basic design has changed little since then, but they have shrunk a little over time.

Bugs and Insects



SOUTHERN RIFFLE DARNER DRAGONFLY

NOTOAESCHNA SAGITTATA

SIZE: UP TO 150MM

Dragonflies are among the best known insects because of their size (usually 30-90mm, but some species are known up to 150mm) and captivating behaviour. Common around quick-flowing streams and rivers, this species can be found across Victoria and south-eastern New South Wales. These nymphs move at a rapid pace by squirting water from their abdomen and can be recognised by their black and yellow colouring. Also favoured as bait by the fishing community.



WHIRLIGIG BEETLE

FAMILY GYRINIDAE

SIZE: UP TO 35MM

Widespread in Australia, this species gets its name from the fact that adults sometime swim rapidly in irregular curves on the water surface. The larvae and adults are predatory. The division of their eyes into top and bottom portions enables them to see both above and below the surface, which helps them to locate their prey. The whirligig beetle is back and known to emit an unpleasant odour.



DIVING BEETLES

FAMILY DYTISCIDAE

SIZE: UP TO 40MM

Adult and larval forms of this species live on the surface of the water, usually on the edges close to the bank, and are common throughout Australia. Although generally dark and shiny with powerful mouthparts some may be brightly coloured. Air carried in a chamber beneath their wings allows diving beetles to stay submerged for long periods. This species feed on aquatic invertebrates as well as small fish, tadpoles and snails.



WATERBOATMEN

CORIXIDAE

SIZE: UP TO 15MM

Waterboatmen have unique legs that are easy to spot. Being active swimmers, their middle and hind legs have a fringe of swimming hairs and the front legs are short and scoop-like. They have a wide and rounded head with prominent eyes and short antennae. The *rostrum* (beak-like mouth part) is most often short, and some species may look beetle-like if the structure of the legs is ignored. Waterboatmen feed mainly on insect larvae in the bottom ooze (or sediment). They are known to feed on a combination of dead plant and animal matter (*detritus* – det-try-tuss) and mosquito larvae

Plants

More than 25 unique vegetation communities make their home along the Yarra River and its tributaries, and within billabongs, wetlands and swamps. Some are dominated by trees and shrubs and can form dense almost impenetrable thickets. For example, Swamp Scrub occurs in areas that are permanently wet especially to the south and east of the Yarra catchment.

The native grasses found around the waterway protect the earth and provide seeds for parrots and food for wombats, wallabies and kangaroos. They are a precious and fragile resource and once destroyed will not recover their former splendour. Native grasses are vulnerable to invasion by introduced grasses, soil by disturbance, grazing, regular mowing and fertilisers. Victoria once had vast natural grasslands.

Manna gums with their tall white trunks can be found along its upper reaches, their leaves an important food source for Koalas.

Riparian scrub occurs along much of the river. River red gums form a tree canopy with a dense understorey of silver wattles, river bottlebrush, prickly currant bush and tree violet. Rushes and sedges often line the banks.



Plants



YARRA GUM

EUCALYPTUS YARRAENSIS

SIZE: UP TO 20M

This native species is indigenous to the Yarra Valley and surrounding areas of southern Victoria. It occurs in isolated patches along the Yarra. Its white/creamy flowers usually bloom in late winter and early spring. The tree provides hollows for nesting. Birds and insects eat its nectar and insects consume its foliage.

SMALL LEAF POMADERIS

POMADERIS VACCINIIFOLIA

SIZE: UP TO 4M

There are probably less than 800 of these plants left in Victoria. The main population is in the Kinglake and Toolangi districts along damp rivers and creeks and a small patch occurs in Warrandyte State Park on the Yarra. It flowers in September and October, producing a small and often unnoticed translucent flower. However, the seed that develops is an important food source for some bird species. The plant needs fire or some sort of disturbance to the ground such as animal diggings to regenerate. The foliage looks like blueberries.

AUSTRAL LADY TRESSES

SPIRANTHES SINESIS

SIZE: UP TO 38CM

This plant is very rare because its pink flowers grow mainly in swampy areas, much of which has been drained and cleared. These flowers feature in spring and spiral up the stalk of the plant. This native provides an important food source for many insects.

TREE VIOLET

MELICYSTUS DENTATUS

SIZE: UP TO 4M

These shrubs grow along the river and creek banks and are a favourite habitat for small birds. The sweet perfume may encourage you to sniff their many tiny bell-shaped flowers. Their blue-purple berries, which drop in summer, are often eaten by lizards and skinks.

Plants



CHRISTMAS BUSH

PROSTANTHERA LASIANTHOS

SIZE: UP TO 8M

Around Christmas, these bushes display masses of showy white flowers splashed with orange and purple. When crushed, their soft, lush, green leaves have a strong minty aroma. The Christmas bush is a relative of rosemary, thyme and mint and grows in cool protected areas along the river and creeks. Aborigines called this plant 'Corranderrk', a name that later became that of a settlement station at Healesville.

HEMP BUSH

GYNATRIX PULCHELLA

SIZE: UP TO 4M

This relative of the hibiscus is restricted to moist areas near rivers and creeks. Its greenish-white, slightly fragrant flowers develop from late summer to spring. The leaves have delicate edges that close over the stem. Animals and insects graze on this plant and it is an important food source for butterflies. Unfortunately deer have taken a liking to eating these plants in the Yarra catchment and this has reduced their number.

KANGAROO APPLE

SOLANUM AVICULARE

SIZE: UP TO 2M

The red fruits of these shrubs are more the size of cherries than apples. Their bright mauve flowers are similar to those of their distant relatives, the tomato and potato. The fruit is supposed to be edible but leaves a bitter aftertaste so it's recommended that you leave them for the birds!

KANGAROO GRASS

THEMEDA AUSTRALIS

SIZE: UP TO 1.5M

As the name indicates, kangaroos graze this grass, which was once a significant feature of the Yarra Valley landscape. It is dormant throughout the cooler months but begins to grow just as other grasses are dying off. In summer when its masses of rusty-red seed heads are a magnificent sight, it remains succulent and is less of a fire hazard than introduced grasses.

Plants



RIVER RED GUM

EUCALYPTUS CAMALDULENSIS

SIZE: UP TO 45M

River red gums are home to many living beings, resident and nomad alike. Even when dead, as logs on the ground, they provide shelter and homes for many plants and animals. Old age for a red gum starts somewhere around 300-400 years. Their thick trunks, spreading crowns and gnarled branches create a grand and graceful character as well as nesting hollows for wildlife. They dominate the river banks and floodplains in the downstream half of the Yarra.

MANNA GUM

EUCALYPTUS VIMALIS

SIZE: UP TO 30M

This tall and spreading forest or woodland tree has long, narrow, fragrant leaves and sheds its cream or white bark in long ribbons. Its cream flowers are mostly seen in summer and it provides many hollows for nesting birds and marsupials. It grows along watercourses and on moist, well drained soils.

YELLOW BOX

EUCALYPTUS MELLIODORA

SIZE: UP TO 30M

The sweet smelling blossoms of this tree attract possums, birds and beekeepers who gather its world famous honey. The tree gets its name from the bright yellow inner layer of bark. The term 'box' was given by early settlers who thought its tough, durable wood was similar to English boxwood. The rough, scaly bark of this tree is home for many spiders, bugs, beetles and other insects.

RED BOX

EUCALYPTUS POLYANTHEMOS

SIZE: UP TO 25M

The roundish blue-green leaves of this tree give the bushland around Warrandyte its distinctive hue. The tree's hard, red wood is extremely durable and is often used for fence posts. We prefer to leave them standing as part of a bushscape that provides shelter for wildlife and beauty for people.

Plants



SILVER WATTLE

ACACIA DEALBATA

SIZE: UP TO 20M

In August and September the yellow blossoms of this tree light up the environment surrounding the river. Easily identified by its feathery foliage and abundant early flowers, silver wattle has grey-green leaves and was given its name because of silver patches on the bark.

BLACK WATTLE

ACACIA MEARNSII

SIZE: UP TO 15M

People appreciate these wattles for their bright yellow flowers and delicate, feathery foliage. But to birds and other creatures, they are well stocked bush pantries. Some 350 kinds of insects were found in one old tree. Sugar gliders feed on gum exuded from the bark and black cockatoos rip open the trunks in search of insects. These fast-growing trees, which flower in spring and early summer, are often used to control soil erosion.

BLACKWOOD

ACACIA MELANOXYLON

SIZE: UP TO 30M

The furrows and cracks in blackwood trunks provide homes for insects and spiders, which hide under the bark and burrow into the wood. The tree also provides excellent habitat for wildlife. This beautiful, long-living wattle has dense foliage, creamy lemon winter/spring flowers and dark, heavy wood. A lot of fine Australian furniture has been made from its timber.

SWEET BURSARIA

BURSARIA SPINOSA

SIZE: UP TO 8M

Flowering time transforms this scraggly plant into a splendid highlight of the dry summer landscape. Its sweetly scented cream flowers develop into small brown seed vessels that rattle in the wind. Being thorny, bursarias offer refuge for small birds. This humble plant rose to fame in 1987 when it was found to provide the exclusive home of the extremely rare Eltham copper butterfly.

Plants



SWAMP PAPERBARK

MELALEUCA ERICIFOLIA

SIZE: UP TO 9M

Once common in the Yarra Valley, stands of these plants have suffered as a result of clearing for agriculture. They spread by suckering to form dense thickets that make wonderfully protected habitat, shelter and food for wildlife, and help stabilise steep banks. Their yellow-white flowers brighten wetlands in spring.

RIVER BOTTLEBRUSH

CALLISTEMON SIEBERI

SIZE: UP TO 7M

These plants are now far less common than before European settlement. They have stiff, sharp-pointed leaves. By contrast, new leaves are reddish, and soft, silky and lovely to touch. Look for some very old, spreading examples along river banks.

BURGAN

KUNZEA ERICOIDES

SIZE: UP TO 7M

This dense, fast growing shrub is found mainly along river and creek banks. Ringtail possums and birds often use it for shelter and nesting. It belongs to the same family as tea trees, eucalypts and bottlebrushes (*myrtaceae*) and often flowers prolifically, especially during drought. It germinates and grows quickly after a disturbance such as a bushfire.

HOP GOODENIA

GOODENIA OVATA

SIZE: UP TO 2M

This common plant features oval-shaped foliage with a toothed edge. It has bright yellow flowers throughout the spring and early summer. It occupies space that might otherwise be taken by weeds, and is an important stabilising plant after fire or animal disturbance. Hop goodenias love a moist spot by a river but do not need to be wet or flooded. The species provides important habitat for birds and occurs throughout the Yarra Valley and in Victoria in moist areas.

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