Know Your Creek
Dandenong Creek
<table>
<thead>
<tr>
<th>Contents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dandenong Creek In History</td>
<td>12</td>
</tr>
<tr>
<td>Flood Management</td>
<td>16</td>
</tr>
<tr>
<td>Stormwater and Water Quality</td>
<td>17</td>
</tr>
<tr>
<td>Wildlife of the Waterways</td>
<td>20</td>
</tr>
<tr>
<td>Fish</td>
<td>22</td>
</tr>
<tr>
<td>Birds</td>
<td>26</td>
</tr>
<tr>
<td>Frogs</td>
<td>36</td>
</tr>
<tr>
<td>Mammals</td>
<td>40</td>
</tr>
<tr>
<td>Reptiles</td>
<td>46</td>
</tr>
<tr>
<td>Bugs and Insects</td>
<td>50</td>
</tr>
<tr>
<td>Plants</td>
<td>56</td>
</tr>
<tr>
<td>Glossary</td>
<td>61</td>
</tr>
<tr>
<td>Bibliography &amp; References</td>
<td>62</td>
</tr>
</tbody>
</table>
Rivers and creeks are an important part of our lives. Whether we cycle or walk alongside them, use the water, or 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 changed, too. 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 set 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 Dandenong Creek and its environment.

It will help you know and understand more about the creek, 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 Dandenong Creek 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

Barry Robinson – one of the founding members of First Friends of Dandenong Creek, formed in 1999.

‘I’ve lived here since I was a boy and the creek was like an extension of my backyard. We used to swim in the creek and even catch fish and eat them.

I’ve watched over the years as it has fallen victim to polluters and turned into something more like a drain than the beautiful natural resource it should be.

We were the first group to install signage on the 49 drains that connect to the creek. We ran a campaign with the local paper telling people that they could use the drain network to trace pollution back to the source. The froth and bubble pollution stopped almost immediately. Our drain signage reminds people that we have our eye on them.

Between us and Knox Environment Society, we test 11 sites a month along the creek. We send results to Waterwatch so we can monitor changes in water quality over time.

We have planted almost 15,000 trees with Maroondah and Knox councils, and distribute newsletters, flyers and bird lists, and talk to schools and the community about the creek. Our group gains grants for tree planting and weed control, and organises litter clean-ups.

Dandenong Creek faces continuing problems of pollution, high water temperatures because of lack of shade, and fast flows after heavy rainfall.

My hope is that some day we can return it to its original condition so that generations to come can enjoy its many treasures, like I did when I was a boy.’
Dandenong Creek is the major waterway in the Dandenong catchment, flowing about 53 km south from its source in the foothills of Mount Dandenong into Patterson River and then Port Phillip Bay.

It begins life as a series of springs on the western slopes of the forested Dandenong Ranges. The health of this upper part of the creek is excellent based on water quality, native vegetation and little erosion.

Forests survive in this mountain section, in which Dobsons Creek and Monbulk Creek are tributaries, and the beautiful Como Gardens are located. Native plants and animals such as the rare Swamp skink and platypus can be found in this section, which discharges to the Liverpool Road Retarding Basin.

Once out of the forest, the creek flows into the urban areas of Boronia and The Basin and its health declines significantly.

This middle section of the creek is urbanised and in places has been straightened to reduce flooding. It runs through former farmlands that are now residential suburbs. Significant corridors of parkland remain nearby and some support environmental values, including native plants and animals.

The coastal or plain section runs below Dandenong through what are now perennial (hold water throughout the year) swamplands to Mordialloc Creek, Patterson River and Port Phillip Bay. In these urban areas, the creek’s health ranges from moderate to very poor and has been the focus of a number of clean-up campaigns in recent years. Key issues are protecting threatened plants and animals, reducing stormwater pollution, weeds, loss of habitat and barriers to fish and animal movement.

The immediate valley of the creek is unsuitable for residential development, but has been put to excellent use for sporting facilities. On a walk, run or cycle along the popular 49 km Dandenong Creek Trail (opened in 2009) from Kilsyth South to Carrum, you pass many football/cricket ovals, the Ringwood, Morack, Glen Waverley, Tirhatuan and Patterson River Country Club golf courses, facilities for soccer, athletics, netball, baseball, bicycle tracks, equestrian pursuits, BMX cycling, tennis courts, softball and the National Water Sports Centre on the Patterson River at Bangholme.

Community awareness and the planning and monitoring by Melbourne Water are making the water healthier and the environment more pleasant. The parks and sporting facilities ensure continued community use and appreciation of the creek as an important natural asset.
Dandenong Creek map

Threatened fauna and flora
- Amphibians
- Mammals
- Reptiles
- Invertebrates
- Large nocturnal birds
- Birds
- Water birds
- Bats
- Fish
- Native flora species

Aboriginal cultural features
- Area contains Aboriginal cultural features. The predominant feature within the area is shown using the following symbols:
  - Aboriginal artefact scatter
  - Scarred tree

Other map symbols
- Community group
- Dandenong catchment
- Victorian heritage registered site
- Dandenong Creek
- Other waterway

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.
The name Dandenong Creek comes from the early association of the hills with the Dandenong township through which the creek flowed before it became lost in the Carrum Carrum Swamp. This swampland once covered more than 4000 hectares, stretching from Mordialloc to Frankston.

The name Dandenong, written Dand-y-non and also Tanjenong by the early settlers, means high or lofty. The creek was probably so named because its source was found on the western slopes of Mount Dandenong, the highest or loftiest in the range.

"Dandenong" is thought by some to be a corruption of the Aboriginal "Tanjenong", meaning high mountain. Others refer to "Narra Narrawong" as the original name for the creek, and emphasise the "ong" as meaning watercourse.

The area was originally inhabited by the Boonerwrung people who enjoyed the creek for its water supply and as a food source. They were part of a much larger confederation known as the Kulin nation – one of about 36 Aboriginal community and language groups that existed in Victoria at the time of the first contact with Europeans.

The first white person to see Dandenong Creek near its source was probably botanist Daniel Bunce in about 1839.

Cattle first grazed along Dandenong Creek in 1837 when overlander Joseph Hawdon made use of land along the flats. The timber cutters soon followed and milling of native timber became an important industry. The excellent river gums were used for structures such as the Melbourne wharves.

**A century of farming**

Farmers also worked the plain, and for 100 years the story of the creek is essentially theirs, often supplying produce to the Dandenong livestock market.

In 1838, Reverend James Clow obtained squatting rights and established a large pastoral run in the area named Corhanwarrabul. In 1841, he built a homestead near Wellington Road on the banks of Dandenong Creek and called it Tirhatuan. The site has been excavated by the Archaeological Society of Victoria.

In 1839, Thomas Napier acquired land on the west side of Dandenong Creek. This area is believed to have been where Jells Park (see below) is now located. He was the first settler in Wheelers Hill. A year later he sold out to Alexander Scott. Scott died soon after taking over Napier’s land and cattle. His wife, Madeline Scott, moved to the property and remained there for several years. The cafe/function centre at Jells Park, Madeline’s Tea Rooms, is named after Madeline Scott.

A plank bridge was constructed over Dandenong Creek in the early 1840s and a basic road to Gippsland was built in 1847-48. A new log bridge was built over Dandenong Creek in 1849, a stronger timber bridge the following year and a stone bridge in 1867.
Bosisto’s, the famous manufacturer of eucalyptus oils, opened in 1852 in a small, roughly constructed still at Dandenong Creek, using the leaves of a species of eucalyptus that grew profusely in the district. Bosisto’s soon built other distilleries at Emerald, Menzies Creek and Macclesfield.

An area now in Rowville was the Native Police Corps headquarters (1837-52) and subsequently the police horse stud until 1931.

**Unspoiled beauty**

Harsh by modern standards, life along the creek was nevertheless full of simple pleasures in the early 20th century. Some idea of its nature can be found in extracts from residents in Heathmont Recollections (2006): “Dandenong Creek in my younger days cannot go without a mention. Its natural attraction and unspoiled beauty were ... sheer pleasure” (Keith Norris).

Roy Norris wrote: “Dandenong Creek was our source of water ... we would go there with the horse and cart and some drums to fill.”

And Bessie Penn: “In those days the creek was a clear running stream which we drank and was inhabited by blackfish, trout, eels and platypus. As a child it was a wonderful life ... we would fish and swim in the creek.”

**Patterson’s curse**

Flooding was always a major problem. Under J.B. Patterson, the Minister for Works, Patterson’s Cut was constructed in 1879. This became Patterson River and eventually in the 1970s, the new suburb, Patterson Lakes.

Over many years, the Melbourne and Metropolitan Board of Works, Dandenong Valley Authority, Parks Victoria and Melbourne Water carried out extensive work on the creek. Retarding basins have been established including those at Colchester Road, Kilsyth and Police Road, Rowville, to manage flooding.

Heavy rain still produces local flooding, although with nothing like the intensity of the 1920s and 1930s or 1952 floods. Indeed, there was substantial flooding as recently as 2008 when a 12-year-old boy drowned in the creek at Doveton.

**Development takes its toll**

Gradually Melbourne’s eastern and south-eastern suburbs encroached on the creek, with septic tanks, light industry and environmental ignorance combining to degrade it. As the suburbs spread across the plain in the boom years soon after World War 2, many of the creek’s meanders were channelled to reduce flooding and in many places the creek was reduced to a concrete drain.

**Recreation areas**

In recent decades, authorities have enhanced the appearance of the waterway and its surrounds, and several attractive areas have been developed.

Use of riparian native and indigenous plants has become widespread in the extensive recreation areas developed along the creek. Jells Park (opened in 1976) and Koomba Park (1981) are outstanding examples of such areas, and Jells Park has more than one million visitors a year. Campbell’s Croft and Shepherds Bush are among other highlights along the green corridor of the creek.

Conservation and pollution control have resulted in monitoring by Melbourne Water and EPA Victoria, supported by community groups such as the Croydon Conservation Society and the First Friends of Dandenong Creek.

Birdlife abounds especially in deliberately maintained wetlands and the extensive swamplands near the coast. For example, Edithvale-Seaford Wetlands is a world-renowned sanctuary for many species of birdlife.

As the health of the creek improves, it is hoped that many native plants and animals will again flourish.

- Gerry Robinson, member, Ringwood Historical Society
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.

Flood modelling and mapping is used 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 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.

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 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 put 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](http://melbournewater.com.au/raingardens)

**What is water quality?**

Stormwater quality has a direct impact on the water quality of our rivers and creeks.

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 Dandenong Creek?**

Dandenong Creek’s source is in the forested Dandenong Ranges National Park, where water quality is excellent. The middle and lower sections have moderate to very poor water quality. Once out of the forest, the creek flows into the urban areas of Boronia and The Basin and its health declines significantly.

**What sites do we monitor?**

Melbourne Water conducts water quality monitoring at four sites along Dandenong Creek:

› Sheffield Road, Doongal Forest
› Boronia Road, Wantirna
› Stud Road, Dandenong North
› Pillars Crossing, Dandenong South.

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 (nitrate, nitrite, ammonia, Kjeldahl nitrogen, soluble reactive phosphorus and total phosphorus)
› faecal contamination (E. coli)
› metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc).
Before European settlement, Dandenong Creek and its extensive wetlands would have provided habitat for a large number and great variety of fish, animals and birds. Animals such as kangaroos, possums, wallabies, emus and many species of small marsupials and waterfowl were common in the woodland and along the creek lines. The greatest concentrations of birds and animals were around the adjacent wetlands during summer.

Studies indicate that many species of native animals have been lost from the area. Ringtail and Brushtail possums, echidna and more than 20 bird species remain.

Most of the middle and lower section of the creek have been channelised and only remnants of the original vegetation remain, in small pockets along the Dandenong Creek corridor and in Valley and Portsmouth Reserves. Many old billabongs and wetlands throughout the Dandenong Valley are occupied by a diverse mix of plant communities.

Many plant species found in the area were utilised by Aboriginal people. Today, most of the original vegetation has been removed because of residential development, drainage, clearing and hydrological changes.
Three species of native fish (as well as Long-necked tortoises) are found in Dandenong Creek. A number of fish now found in the Dandenong Creek have been introduced from overseas.

The most numerous fish in the Dandenong Creek is the small Mosquito fish (also known as Eastern Gambusia), which is native to north and Central America. Mosquito fish were introduced to Australian rivers and creeks to reduce mosquito numbers but have made no significant difference to mosquito numbers. They attack small native fish including the young of larger fish species, and take their food.

Dwarf galaxias were found in wetlands and small creeks along Dandenong Creek until about 10 years ago. Competition with and attack by Mosquito fish along with habitat loss due to land development are the main causes for the loss of this threatened native species along Dandenong Creek.
Fish

**SHORT-FINNED EEL**  
*Anguilla australis*

**Size:** Commonly up to 60cm (males), 90cm (females)

Short-finned eels are the most common fish species in Dandenong Creek. 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.

**COMMON GALAXIA**  
*Galaxias maculatus*

**Other Name:** Common jolly tail

**Size:** Commonly 10-19cm

Common galaxias have been found in Dandenong Creek. Their numbers are low, due to fish barriers such as weirs, logs and rocks. Adults move downstream to estuaries to spawn and young spend their first six months at sea. When they return to freshwater rivers and creeks, they are part of large spring whitebait migrations. They eat mainly terrestrial and aquatic insects and crustaceans. They are a long olive-grey fish with variable mottling on their sides.

**REDFIN PERCH**  
*Perca fluviatilis*

**Size:** Up to 45cm

Redfin perch were introduced into Australian waters in the 1860s. The hardy fish live in billabongs, swamps and slow-flowing parts of the creek. They have two characteristic red fins and dark vertical stripes along their silver bodies. These predators are considered a cause of reduced numbers of several fish species and feed on small fish, crustaceans, molluscs and insect larvae.

**EUROPEAN CARP**  
*Cyprinus carpio*

**Size:** Commonly 50-65cm

European carp are the largest fish in the Dandenong Creek system. 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.
Some of Australia’s most iconic bird species may be found at times along the Dandenong Creek, which is a haven for a variety of birdlife including insectivorous birds, nectar-feeders (such as the honeyeaters), birds of prey, seed-eaters and waterbirds.

Among the waterbird species known to inhabit Dandenong Creek and its environs, the Cattle Egret, Australasian Bittern and Blue-billed Duck are listed on Victoria’s Flora and Fauna Guarantee Act. Three species on this list are migratory and protected by international migratory bird agreements between Australia, Japan and China: Latham’s Snipe, Great Egret and Cattle Egret.

About 11 bird of prey species are regularly recorded along Dandenong Creek or in the area, including the beautiful Peregrine Falcon and Wedge-tailed Eagle.

The flora of Dandenong Creek plays a vital role in providing food and shelter for the nectar and seed-eating species of native birds. Many of the established trees such as eucalypts have hollows in them that birds and mammals depend on for nesting, roosting, or simply shelter and protection from predators.
**Birds**

<table>
<thead>
<tr>
<th><strong>Bird</strong></th>
<th><strong>Scientific Name</strong></th>
<th><strong>Size</strong></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red-kneed Dotterel</strong></td>
<td><em>Erythrogonyx cinctus</em></td>
<td>Up to 20cm</td>
<td>Red-kneed dotterels can be found feeding in shallow water around wetlands and lakes. They probe the mud to find aquatic insects and larvae and also eat seeds. This small, plump wader has relatively long red legs, a black cap and breast-band, which stand out against the white neck and breast. The back and wings are grey-brown. They nest in hollows, preferably on an island in a lake. Both parents share incubation of and care for the young, who swim upon hatching.</td>
</tr>
<tr>
<td><strong>Australian Shelduck</strong></td>
<td><em>Tadorna tadornoides</em></td>
<td>Commonly 55-73cm</td>
<td>This large duck has a black head and body, with distinctive chestnut and white bands around its breast and neck, and the same colours on its wings. Females have a white eye-ring, and graze on grass on land or upended in shallow water, looking for algae, insects and molluscs. Their nests are usually high in a large tree hollow or in a rabbit burrow and are lined with grass and down.</td>
</tr>
<tr>
<td><strong>Pink-eared Duck</strong></td>
<td><em>Malacorhynchus membranaceus</em></td>
<td>Up to 40cm</td>
<td>The Pink-eared Duck is small with distinctive zebra stripes along its body, black wings and a pink spot near its ear. It has a pointed leathery flaps on the bottom tip of its bill, which enables it to filter feed in shallow water, mainly on microscopic plants and animals. Breeding takes place all year round. Nests are rounded masses of down placed in a hollow or stump above the water.</td>
</tr>
<tr>
<td><strong>Swamp Harrier</strong></td>
<td><em>Circus approximans</em></td>
<td>Commonly 50-60cm</td>
<td>The Swamp Harrier is a large, slim-bodied bird of prey, with yellow eyes, an owl-like face mask, long, yellow legs and a long tail, rounded at the tip. It is dark brown with a prominent white rump. Juveniles are dark brown. When hunting for birds, eggs, large insects, frogs, reptiles and small mammals, Swamp harriers glide low to the ground or water, dropping onto their quarry. Their straw and grass nests are flat cups hidden in dense reeds or long grass.</td>
</tr>
</tbody>
</table>
**WHISTLING KITE**  
*HALIASTUR SPHENURUS*  
SIZE: COMMONLY 50-60CM

The Whistling Kite is a medium-sized bird of prey. It has a light brown head and underparts, with pale streaks, and dark sandy-brown wings with paler undersides and underwings that form a pale ‘M’ shape when open. These kites are often seen near water or around farms, soaring in a lazy, circling pattern, searching for dead animals and small, live mammals, birds, fish and insects. They make their large nests from sticks in the fork of a tree.

**YELLOW-TAILED BLACK COCKATOO**  
*CALYPTORHYNCHUS FUNEREUS*  
SIZE: COMMONLY 55-65CM

This large cockatoo has yellow cheek patches and panels on its tail. It feeds in flocks and has a long breeding season. Both sexes construct the large tree hollow nest lined with wood chips. The female incubates the one or two eggs, while the male supplies her with food. If there are two eggs, usually only one chick survives, staying in the care of its parents for about six months.

**EASTERN SHRIKE-TIT**  
*FALCUNCULUS FRONTATUS*  
SIZE: UP TO 19CM

This medium-size bird has a striking black and white striped crested head and a bright yellow breast. It uses its powerful short bill for stripping bark from branches to find insects and spiders. It will also sometimes eat fruit and seeds. The male selects a nest site in the high fork of a eucalypt tree, while the female builds a deep, cone-shaped nest from dry grass and bark strips, covering it with spider webs, moss and lichen.

**RUFOUS FANTAIL**  
*RHIPIDURA RUFIFRONS*  
SIZE: UP TO 16CM

The Rufous Fantail is a small, active bird with a distinctive reddish brown rump and continuously fanned tail. The bird is mainly grey-brown with a dappled white breast, and a reddish ‘eyebrow’. The Rufous Fantail actively feeds on insects, often during flight. It constantly fans its tail and flicks its wings while foraging. The long, compact cup nest is made from fine grasses bound with spider webs and is suspended about 5m from the ground from a tree fork.
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.

LITTLE GRASSBIRD  
*MEGALURUS GRAMINEUS*  
**SIZE:** COMMONLY 14CM  
The Little Grassbird is a small, streaked dark brown-grey bird with a pale grey breast. It is difficult to see but can be recognised by its three-note whistle. The Little Grassbird eats insects remaining in the dense cover of grasses and swamp vegetation. It builds a deep cup nest of reeds and coarse grasses, lined with feathers and hidden in thick reedy vegetation.

NANKEEN NIGHT HERON  
*NYCTICORAX CALEDONICUS*  
**OTHER NAME:** RUFOUS NIGHT HERON  
**SIZE:** UP TO 64CM  
The Nankeen Night Heron is a rich red-brown, paler underneath, and has a black crown. It sometimes has distinctive long thin white feathers trailing from the back of its head. Young birds are heavily spotted and streaked white, brown and orange-brown. It is nocturnal and can be seen roosting in branches above water by day. At night, these herons feed in shallow water on insects, crustaceans, fish and frogs. Breeding takes place throughout the year in colonies, often together with egrets and cormorants. The nest is a loose stick platform over water. Both sexes incubate the eggs.

AUSTRALASIANS HOVELEER  
*ANAS RHYNCHOTIS*  
**OTHER NAMES:** SPOONBILL DUCK, SHOVELBILL, STINKER  
**SIZE:** COMMONLY 46-53CM  
Female Australasian shovelers have mottled brown upperparts, chestnut underparts, and a dark brown eye. Males in breeding plumage have a deep grey-blue head with a white stripe between the bright-yellow eye and the bill. The underparts are largely chestnut, while the upperparts are mottled black, grey, white and brown. The bill has an extended pointed tip. Fine hairs along the edges of the bill help this duck strain insects, crustaceans, plants and seeds from the water. Nests are built on the ground in dense vegetation. The female alone incubates the eggs and broods the young.
**HARDHEAD**

*Aythya australis*

**Other names:**
- WHITE-EYED DUCK,
- BARWING OR BROWNHEAD

**Size:** Commonly 45-60CM

This medium-size duck appears mainly chocolate brown when swimming, with a white spot under the tail. Males have a white eye. In flight, the underwings are white, edged with brown. A white breast patch is obvious in flight and when standing in the shallows. In flight, the Hardhead’s wings make a distinctive whirring sound. These ducks roost on low branches and stumps near the water, breeding in densely vegetated wetlands and diving smoothly underwater for food – aquatic plants and animals, particularly mussels and freshwater shellfish.

---

**AUSTRALIAN PELICAN**

*Pelecanus conspicillatus*

**Size:** Commonly 160-180CM

Pelicans are a distinctive large white bird with an enormous bill and pouch. During breeding, the bill is a brighter colour. The Australian Pelican dips its head underwater to trap fish in its large pouch. It may feed alone, but more often in a group, rounding up shoal fish. Pelicans are widespread on freshwater, estuarine and marine wetlands and waterways including lakes, swamps, rivers, coastal islands and shores.
Among the many frog species known to inhabit Dandenong Creek, the Growling Grass Frog is perhaps the best known. Listed on Victoria’s Flora and Fauna Guarantee Act, the Growling Grass Frog population has declined throughout its entire range over the past two decades and is no longer found in much of the Melbourne area where it was once prevalent.

The croak of the Growling Grass Frog has often been compared to the sound of a boat’s outboard motor on low throttle. Many other frog species have made Dandenong Creek their home, each with their own distinctive calls.

Frogs are also extremely important to our ecology. Many people are unaware that frogs are recognised as good indicators of a healthy environment, especially of water quality and toxins. This is because amphibians are covered in skin that must stay moist at all times, making them susceptible to foreign substances entering waterways.
Frogs

POBBLEBONK
*Limnodynastes dumerilii*

**Other names:** Four-BOB FROG OR EASTERN BANJO FROG

**Size:** Up to 5-8CM

The Pobblebonk is a medium to large mottled dark brown frog. It can be found in large numbers at night, especially after rain. Males call from August to April, usually floating in concealed vegetation. The call is a distinctive resonant ‘bonk’ sound. These frogs may migrate up to one kilometre to reach breeding sites.

---

STRIPPED MARSH FROG
*Limnodynastes peroni*

**Size:** Up to 7CM

This frog’s back is light brown or grey-brown with darker brown stripes and a pale stripe down the middle. Its belly is white, its skin is smooth and its toes have almost no webbing. This frog is a voracious hunter and will eat any animal, including other frogs, smaller than itself. It lives around ponds and wetlands, hiding under logs, stones and leaf litter during the day. Its call sounds like a loud ‘tok’ or ‘cluck’. When breeding, the males begin to call on land and continue in shallow water, usually at night. Breeding occurs throughout the year. The call sounds like a repeated ‘creek-creek-creek-creek’. They are brown with variable patterning and may show green markings.

---

SOUTHERN BROWN TREE FROG
*Litoria ewingi*

**Size:** 3-6CM

This small smooth frog is an agile climber that can jump to catch flies in flight. These frogs, which are commonly found in damp areas in gardens, breed in wet or flooded areas. The males call throughout the year. The call sounds like a repeated ‘creek-creek-creek’. They are brown with variable patterning and may show green markings.

---

GROWLING GRASS FROG
*Litoria raniformis*

**Size:** 5.5-10CM

This frog is one of Victoria’s most endangered species. Adults are usually found near or in water or very wet areas in woodlands, shrublands and open and disturbed areas. Eggs and tadpoles can be found in permanent lakes, swamps, dams, and lagoons with still water. Males are renowned for their distinctive calls, which consist of a long modulated growl or drone, followed by a few short grunts: ‘crawark-crawark-crok-crok’. Growling grass frogs are ‘sit-and-wait’ predators, feeding on insects and even small lizards, fish, tadpoles and other frogs.
Dandenong Creek is home to many species of mammals including about eight species of bats. Dense foliage and tree hollows along the creek provide shelter for a great variety of mammals, of which many visitors would be unaware.

Iconic species to Victoria such as the Grey-headed Flying-fox and the Sugar Glider can be found in healthy numbers all the way along Dandenong Creek where appropriate habitat is available.

The creek itself also provides valuable habitat to one of Australia’s most loved and recognised animals, the Platypus (Ornithorhynchus anatinus). Classified as a regionally significant species, the Platypus makes its home burrowing into the steep banks of the creek. It collects food in large cheek pouches and feeds on yabbies, worms and other small invertebrates.

The Platypus belongs to the Monotreme family, and only one other species belongs to this group in Australia: the Echidna.

The waterway and its associated vegetation provides habitat for a range of bat species. Bats, mainly roosting in tree hollows during the day, come out at night in the warmer months. Bats are an important part of the local ecology, and benefit greatly from Melbourne Water’s tree planting along waterways.
Mammals

RAKALI OR WATER RAT
HYDROMYS CHRYSOGASTER
SIZE: UP TO 34.5CM (MALES), 37CM (FEMALES)

Water rats are part of the rodent family but look and behave more like otters. They have a broader nose than an introduced rat and a white tail tip. They vary in colour from grey-brown and rich golden brown to black with cream to golden-orange undersides. They are avid nocturnal hunters and catch fish, frogs, yabbies, and insects before bringing them to land to eat. Water rats are well adapted to the water and are skilful swimmers and divers. They need areas of vegetation to burrow, forage and find refuge.

GREY-HEADED FLYING-FOX
PTEROPUS POLIOCEPHALUS
OTHER NAME: FRUIT BAT
SIZE: BODY UP TO 29CM

This is one of the largest bats in Australia. Mostly dark brown with a grey head and orange-red mantle encircling the neck, it spends much of its time hanging from branches of trees in forests or mangroves. Groups known as 'camps' can be made up of many thousands of animals. This bat searches for food at night, travelling up to 50km to feeding areas. It eats fruit from native and introduced species, particularly figs, and feeds on nectar and pollen from native trees, favouring gum trees.

COMMON RINGTAIL POSSUM
PSEUDOCHEIRUS PEREGRINES
SIZE: BODY 30-35CM, TAIL 30-35CM

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.

COMMON BRUSHTAIL POSSUM
TRICOSURUS VUPECULA
SIZE: BODY 30-55CM, TAIL 25-40CM

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.
SUGAR GLIDER

*PETARUS BREVICEPS*

SIZE: BODY 16-21CM, TAIL 17-21CM

Sugar gliders are beautiful and delicate animals, and have survived wherever there is enough food, suitable bush and hollows for breeding. 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.

WOMBAT

*VOMBATUS URSINUS*

SIZE: AVERAGE 1 METRE IN LENGTH AND 27KG IN WEIGHT

Wombats are solidly built marsupials with a squat, round, bear like body, small ears and eyes, and a large naked nose. Their thick, coarse fur varies in colour from sandy brown to grey and black, and is sometimes flecked with fawn. They sometimes sleep with their feet sticking up in the air and can run up to 40kph. They are the closest relative to the koala.

ECHIDNA

*TACHYGLOSSUS ACULEATUS*

SIZE: BODY 30-45CM IN LENGTH AND 2-5KG IN WEIGHT

Echidnas are found in the forested reaches of the Dandenong Creek. On their back, sides and tail the echidna is covered with strong pointed spines. In between the spines is coarse hair. Their underside is covered with soft hair. Echidnas need bushland to live in; they are surprisingly good swimmers and don’t like the heat. Although widespread, they’re not commonly sighted for most of the year. They are mostly solitary and elusive animals. One of the best signs that an echidna is around is the mark they make with their snout in soft sand and soil when they’re searching for food – a small triangular furrow with a round hole at its apex.

SWAMP WALLABY

*WALLABIA BICOLOR*

SIZE: BODY 70-76CM IN LENGTH AND UP TO 17KG

The Swamp Wallaby is a common, medium-sized, browsing marsupial that is unique in many ways. It is distinguished from other wallabies by its dark colour, different gait and straight tail out behind. They have a broad fourth premolar tooth, which is never shed, and is used for eating course plant material. They breed all year round, and are sexually mature at 15-18 months. After a gestation period of 33-38 days only one young is born. The joey stays in the pouch till it is 8-9 months old. They are a solitary animal but will gather when feeding.
There are not a great variety of reptiles that make Dandenong Creek their home, but they still play an important role within the local ecology.

Two species of snakes are widely recorded as living in the area: the Eastern Tiger Snake and the Common or Lowland Copperhead.

These snakes are classified as protected species within Victoria, and are also highly venomous. Generally speaking, snakes need not be feared and are more likely to flee should they sense danger or human approach.

The Eastern Snake-necked Turtle can also be found within the waterway. Listed as a regionally significant species, the turtles have been known to migrate over long distances, sometimes straying from their intended path and ending up in suburban backyards. In the summer season, the female of the species will lay more than 10 eggs.
**EASTERN SNAKE NECKED TURTLE**

*CHELODINA LONGICOLLIS*

**LENGTH:** UP TO 30CM (SHELL)

These turtles live in swamps and slow-moving water and can live to be 50 years old. Also known by another common name of ‘stinker’, this turtle can eject pungent liquid gland secretions from its ‘armpits’ and groin when handled or disturbed. Their shell is brown with black edges, and the underside is lighter with black lines. Unlike other turtles, they bend their neck under their shell to hide and hunt, approaching prey with their head sideways, snapping their neck like a snake to catch prey at close range. This carnivore feeds on insects, worms, tadpoles, frogs and small fish, swallowing them whole or shredding them into pieces with its front paws.

---

**EASTERN TIGER SNAKE**

*NOTECHIS SCUTATUS*

**LENGTH:** 1.2M

The Eastern Tiger Snake is variable in colour in colour from brown, olive, grey to black. The most usual pattern is alternating light and dark bands, which gives rise to the common name. Belly cream, yellow, olive green or grey. Its main food source is frogs, but also eats a wide variety of small vertebrates. It is an extremely dangerous snake which can inflict fatal bites.

---

**COMMON COPPERHEAD SNAKE**

*AUSTRELAPS SUPERBUS*

**LENGTH:** UP TO 1.7M

The Lowland Copperhead snake is very variable in colour ranging from light grey, brown to black. Often has darker colour on neck and dark stripe down back. Its main food sources are frogs and other small vertebrates. Copperheads produce 15-30 live young. The young are totally independent at birth and are fully equipped with venom, which is toxic enough to be considered dangerous to humans. Although the venom is dangerous, bites are uncommon as the species is not aggressive.

---

**BLUE-TONGUED LIZARD**

*TILIQUA SCINCOIDES*

**LENGTH:** UP TO 40CM

The Blue-tongue lizard is a large skink about 30-40cm long. It is brown and black blotched on a cream body with usually a dark band behind the eyes. They are easily recognised by their bright blue tongue. They shelter at night among leaf litter or under large objects on the ground such as rocks and logs. They are sometimes found in suburban gardens. Blue-tongues are not very agile and eat slow-moving prey such as snails, beetles and other insects.
Although often unseen, the role that bugs and insects play within the local and wider ecosystem is extremely important. Birds, fish, frogs, mammals and a large proportion of our other native species would have nothing to eat if insects and other invertebrates didn’t exist.

As with any other healthy waterway, there is almost an incalculable amount of bugs and insects that inhabit this vast freshwater environment. The diets of these creatures are many and varied and can include organic material such as algae, bacteria, other bugs and fungi as well as decaying wood and leaves. So as well as providing a food base for frogs, fish and birds, waterbugs are responsible for digestion of a large amount of organic material and passing it on to the food chain.
**Bugs and Insects**

**PREDACIOUS DIVING BEETLE**

*Dytiscidae*

**OTHER NAME: WATER BEETLE**

**SIZE: UP TO 35MM**

Predacious diving beetles are large predatory aquatic insects that can be recognised by their streamline shape and thin antennae. Both the top and underneath body surface are convex. Hind legs bear a dense fringe of swimming hairs. Larvae of diving beetles are elongate with long legs covered with swimming hairs. Their long sickle-like jaws are deeply grooved to allow stubbing and sucking their prey. The breathing holes are located at the tip of the abdomen and the last abdominal segment often forms a siphon for replenishing air supply. Many larvae have two tail filaments (threads) at the end of the abdomen. (from Gooderham & Tsyrlin, 2002).

**WATER BOATMAN**

*Corixidae*

**SIZE: 0.8-10MM**

Water boatmen are easily seen swimming in still waters. These oval-shaped bugs have very small antennae, with brownish backs and yellow undersides. They may be mistaken for back swimmers because they can be found in the same habitats. But they cannot stay still unless clinging to a plant or to debris. Otherwise they will float to the surface. When looking at them swimming in a water body it may be difficult to distinguish them from small beetles, particularly Predacious diving beetles.

**BITING MIDGE**

*Ceratopogonidae*

**SIZE: UP TO 50MM**

Biting midges have piercing and sucking mouthparts and must feed on liquids. Some have been known to feed on vertebrates such as birds, fish, frogs, horses, cattle and humans. Some adults even require a blood meal to complete their life cycle. Others feed on nectar from plants. The larvae consume mainly decaying plant and animal matter, but some are predators. All adults have a single pair of wings and are generally able fliers. Most aquatic larvae crawl or burrow into the sediment at the water bottom. Sometimes they can be seen wriggling through the water.

**DAMSELFLY**

*Zygoptera*

**SIZE: 9-50MM**

Damselflies are close relatives of the more robust and better known dragonflies. Damselfly larvae can be recognised by their three leaf-like tails and large eyes that allow them to see even behind their back. Damselfly larvae patiently stalk other invertebrates among water plants, using the unfolding action of their lower jaw armed with hooks to grasp prey.
SNAIL

*PHYSIDEA*

**SIZE: UP TO 30MM**

Snails have a unique feeding structure called a radula that is a belt of teeth stretched over a cartilage base. This is used for grinding and rasping food. Freshwater snails have several methods for breathing underwater. Some have gills within a mantle cavity inside the shell, others obtain oxygen from an air-filled space within the body and yet others have a peripherally placed pseudobranch, which is a small triangular shaped process, presumed to have some respiratory function. The snail secretes its own shell. As snails grow, more calcareous material is deposited along the periphery of the shell.

CADDISFLY LARVA

*LEPTOCERIDAE*

**SIZE: UP TO 20MM**

Caddisfly Larva (plural – larvae) are worm-like with three pairs of well-developed legs on the first three body segments and hooks on the last one. Caddisflies are related to butterflies and moths. Their soft bodies are usually covered in a protective silky case. They eat algae and plants (living and dead). They use silk to build cases from gravel, twigs or sand depending on what they can find. They are also an important food for many fish.
Plants

Dandenong Creek is home to some of Victoria's most beautiful flora.

These vegetation communities contain many types of plants, including the iconic Eucalypt tree. Commonly known as gum trees, these majestic plants are relied upon by our native fauna to provide valuable sources of food and shelter.

Hollows within these trees act as homes for a large variety of animals including mammals, birds, reptiles and even some amphibian species.

Before and after European settlement, a great variety of Eucalypt species were used by indigenous populations for applications including making bags, nets and string, wood for tools, weapons, canoes and various other implements. The flowers provided nourishment for humans and animals, and Eucalyptus gum was often applied to ease toothache.

Dandenong Creek is also home to at least two populations of tree species that are rarely found in such numbers and in healthy condition. Classed as regionally significant, Muttonwood can be found in very large numbers along the creek. The other species is Yarra Gum, which is listed nationally as rare along with its associated vegetation community.
## Plants

<table>
<thead>
<tr>
<th><strong>Manna Gum</strong></th>
<th><strong>Swamp Gum</strong></th>
<th><strong>River Red Gum</strong></th>
<th><strong>Muttonwood</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Eucalyptus viminalis</em></td>
<td><em>Eucalyptus ovata</em></td>
<td><em>Eucalyptus camaldulensis</em></td>
<td><em>Rapanea howittiana</em></td>
</tr>
<tr>
<td><strong>Size:</strong> up to 20-25m</td>
<td><strong>Size:</strong> up to 30m</td>
<td><strong>Size:</strong> up to 45m</td>
<td><strong>Size:</strong> up to 10m</td>
</tr>
</tbody>
</table>

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. It is found in the upper and middle sections of Dandenong Creek.

The Swamp Gum is a variable, small to medium-size woodland tree featuring wavy, broad, dark green leaves. Its bark sheds in strips from upper branches, leaving smooth, white bark on the lower trunk. It has cream flowers mostly through winter to early spring. Swamp gums grow in poorly drained, swampy sites and depressions in the landscape and are found throughout Dandenong Creek except the lower section. *Eucalyptus yarraensis* (Yarra Gum) is a very similar tree with rough bark on all branches and slightly smaller leaves. A woodland dominated by Yarra Gum occurs in the middle section of Dandenong Creek.

This large spreading woodland tree has dull, greyish-green leaves. The bark is shed in plates, leaving cream or pink patches on the grey trunk and branches. Its small flowers can be seen throughout the year. It is a long-lived tree that develops large hollows with age and is used by a range of animals. The most widespread eucalypt in Australia, it is found in the lower sections of the Dandenong Creek valley, the floodplain and temporary wetlands.

The tough leaves of this tall shrub or small tree are shiny dark green on top and dull below with wavy margins. Small green flowers are found along small branches in spring to early summer. It is an excellent mid-storey plant which grows in shade and can form thickets. Its fruit provides food for birds. Muttonwood grows on moist, well drained soils along waterways but will withstand extended dry periods when established. It can be found on the upper and middle sections of Dandenong Creek and can be confused with the weed *Pittosporum undulatum*. 
RUNNING MARSH FLOWER
VILLARSI A RENIFORMIS
SIZE: UP TO 1M, FLOWERING STEM TO 1.5M
This is an aquatic herb, similar to the Water Lily, with glossy green rounded leaves held on or just above the water surface. It grows in shallow grassy wetlands and features showy, yellow flowers in spring to early summer. It provides habitat for frogs, small fish and many invertebrates. This attractive plant is now uncommon in the Dandenong Valley. It is suitable for home garden ponds.

TASMAN FLAX-LILY
DIANELLA TASMANICA
SIZE: UP TO 1M, LEAVES UP TO 80CM
This is a large spreading tussock with dark green strap-like foliage. It features delicate blue flowers which are 1.5m high in spring and summer and are followed by bright purple berries. The foliage, which was used by Aborigines as fibre to make twine and baskets, is found on moist, well drained soils in riparian areas and forests.
Bibliography and References

Birds

Australian Museum 2007, viewed May 2009
www.birdinbackyards.net

City of Monash 2007 – 2009, viewed April 2009
www.monash.vic.gov.au

Birds of Australia, Penguin Books Australia, Australia

Bugs

CSIRO Publishing, Australia

Fish

Freshwater Fishes of Australia, Western Australian Museum, Perth

Frogs

Frogs Australia Network, 2007, viewed June 2009
www.frogsaustralia.net.au

Mammals

of Australia, 2nd Ed, Oxford University Press, Melbourne

extended boundaries of Melbourne Water, A report for Melbourne
Water, CESAR Consultants Pty Ltd, Greensborough, Victoria

Reptiles

of Australia, New Holland, Australia

Photography Credits

Fisherman – Bill Bachman (Australian Geographic)
Short-finned eel – Neil Armstrong
Common Galaxia – Gunther Schmida (www.mdba.gov.au)
Redfin Perch – M McGruthor (Australian Museum)
European Carp – Gunther Schmida (www.mdba.gov.au)
Red-kneed Dotterel – Tom Tarrant (www.aviceda.org)
Australian Shelduck – Bill Bachman (Australian Geographic)
Pink-eared Duck – Tom Tarrant (www.aviceda.org)
Swamp Harrier – Peter Merritt
Whistling Kite – Mike Langford (Australian Geographic)
Yellow-tailed Black Cockatoo – Tom Tarrant (www.aviceda.org)
Easter Shrike-Tit – Graeme Chapman
Rufous Fantail – (Australian Geographic)
Restless Flycatcher – Tom Tarrant (www.aviceda.org)
Little Grassbird – Peter Merritt
Nankeen Night Heron – Tom Tarrant (www.aviceda.org)
Australasian Shoveler – Graeme Chapman
Hardhead – Peter Merritt
Australian Pelican – Melbourne Water
Pobblebonk – Noel Butcher
Striped Marsh Frog – Dr. Kerry Kriger (www.savethefrogs.com)
Southern Brown Tree Frog – Jason Edwards
Growling Grass Frog – Peter Robertson
The Rakali or Water Rat – Peter Merritt
Grey-headed Flying-fox – Graeme McConnell (Australian Geographic)
Common Ringtail Possum – Esther Beaton (Australian Geographic)
Common Brushtail Possum – Peter Merritt
Sugar Glider – Grenville Turner (Australian Geographic)
Wombat – Healesville Sanctuary
Echidna – Yuri Lochman (Australian Geographic)
Swamp Wallaby – David Kleinert
Snake-Necked Turtle – Jason Edwards
Common Copperhead Snake – Greg Child (Australian Geographic)
Predacious Diving Beetle – www.bugsurvey.nsw.gov.au
Waterboatmen – www.mdbc.gov.au
Biting Midge – John Gooderham & Edward Tsyrlin
Damselfly – www.istockphoto.com
Snail – Greg Woodward MCMA
Caddisfly Larva– Greg Woodward MCMA
Manna Gum – Brian Bainbridge
Swamp Gum – Brian Nicholls
River Red Gum – Andrew Gregory (Australian Geographic)
Muttonwood – Jason Edwards
Running Marsh Flower – Parks Victoria
Tasman Flax-Lily – Jason Edwards