



CUMBERLAND
CITY COUNCIL

Guide to Supporting Backyard Biodiversity





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What is Biodiversity and why is it important?

Biodiversity is all the different life forms that you'll find in an area that make up the ecosystem. These plants, animals, fungi, and microorganisms all co-exist together to create an intricate web, forming an ecosystem which is natural, balanced, and sustainable. This is the basis for healthy, functioning wildlife.

Biodiversity is critical for the survival of all the earth's species, as well as basic resources such as clean air and clean water. On a local scale, biodiversity is important for community well-being, aesthetics, science, recreation, culture, health and spirit.

To reduce the negative impact of human activity on our local biodiversity, there are actions we can take as individuals and as a community to provide additional habitat for our native species by creating a green corridor.

What is a green corridor and how does it help biodiversity?

When looking at an aerial view of the Cumberland Local Government Area you will notice an urban landscape which is dotted by greenspaces which make up our parks and reserves. These parks and reserves provide habitat for native flora and fauna, with the largest green corridor in Cumberland being the Duck River Parklands.

A green corridor (also known as a wildlife or ecological corridor) is an area of connected habitat across a landscape that allows for the movement of animals and dispersal of plants. Having higher habitat connectivity is vital to maintaining biodiversity.

Cumberland residents can take actions within their own backyards to create their very own green corridor for native plants and animals. This guide booklet will provide tips and tricks on how you can create habitat within your backyard, making it more ecologically and environmentally friendly.

Native Species in Cumberland

What species are you wanting to attract to the yard?

The first thing you'll need to ask yourself when creating a biodiversity friendly backyard is what species do you want to attract or support in your yard? Different strategies will attract different plants and wildlife to your backyard.

Here are some native animals that you can provide habitat for in your backyard

Birds	Rainbow Lorikeets, Tawny Frogmouths, Superb Fairy Wrens, Galahs, Sulphur-crested Cockatoos, Kookaburras, Willie Wagtails
Marsupials	Brushtail Possums, Ringtail Possums, Sugar Gliders
Lizards and skinks	Eastern Blue-Tongue, Eastern Water Dragon, Eastern Water Skink, Dark-flecked Garden Sunskink, Pale-flecked Garden Sunskink
Insects and invertebrates	Blue-banded Bees, Resin Bees, Leafcutter Bees
Frogs and amphibians	Common Eastern Froglet, Brown Striped Frog, Peron's Tree Frog, Eastern Dwarf Tree Frog



How to attract native wildlife to your backyard

Birds

Native birds are excellent pollinators, and they keep unwanted pests out of the garden. For some people, birds have a calming effect on mental health with their beautiful colours, singing, foraging and nesting behaviour.

Cumberland City has a large and diverse native bird population, and it is very easy to create habitat for birds in the backyard. Planting native plants in your backyard with bright coloured flowers such as bottlebrushes and grevilleas will attract nectar eating birds like lorikeets and wattlebirds. Seed eating birds including cockatoos and galahs will also be attracted to any grevilleas planted as well as native grasses.

It is important to note that an overabundance of nectar feeding birds can deter smaller birds from your yard as they can be aggressive towards smaller birds. To attract smaller species of birds such as wrens, willie wagtails and thornbills, we recommend planting insect attracting shrubs and wildflowers including wattles, tea-trees, daisies and bluebells. Other large birds including magpies and Kookaburra's will also be attracted to a garden filled with insect attracting plants.

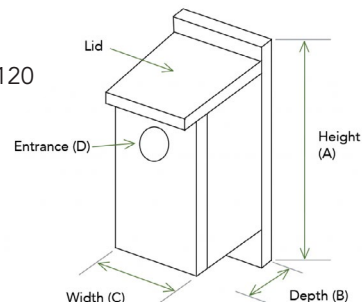
Access to water is also an essential for a garden designed for attracting birds. You can be as creative or simple as you like when it comes to providing a water source for birds in the garden. A bird bath works great, but you could also recycle some old ice cream containers as a water dish. If you are especially creative, you can make your own bird bath out of recycled materials.

Installing a bird nesting box in your backyard is another way in which you can provide habitat for native birds. When selecting a nesting box or if you decided to make your own nesting box, have a think about what type of bird you want to attract. Nesting boxes are designed with certain specifications depending on the bird they are made for.

The measurements below are in millimeters and are the minimum guidelines for the dimensions of the boxes.

- Ringtail Possum Nest Box: A 400, B 240, C 200, D 70
- Brushtail Possum Nest Box: A 500, B 250, C 290, D 100-120
- Rosella Nest Box: A 400, B 240, C 200, D 70
- Treecreeper Nest Box: A 400, B 190, C 170, D 45-50
- Sugar Glider Nest Box: A 400, B 240, C 200, D 32-35

Credit: Build a Nest Box, Backyard Buddies



Native Mammals

If your property backs onto a park, reserve, or bushland you may find the occasional possum or sugar glider in your back yard.

Brushtail and Ringtail possums are nocturnal animals that have adapted well to living in urbanised areas. Possums spend most of their time living in eucalyptus trees and foraging off nectar from native plants and fruit trees. Occasionally they will also come down to the ground in search of food.

Sugar gliders are another species of small marsupials. They have a unique feature and that is that they have a special skin between their ankles and wrists which gives them the ability to glide between trees. Sugar gliders are also nocturnal animals. They are omnivorous which means that they eat a variety of foods including nectar, insects and even lizards and small birds.

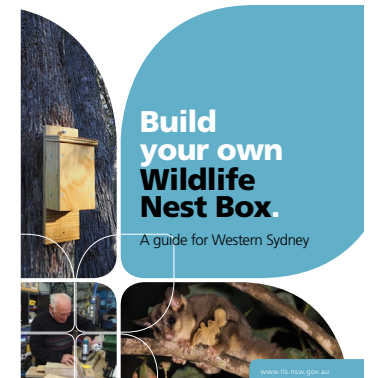


The major threat these marsupials face is loss of habitat and food sources. In the wild, possums and sugar gliders live and raise their young in tree hollows. A tree hollow can take up to 100 years to fully form, this coupled with urbanisation means that animals like possums and sugar gliders are restricted in finding suitable habitat and unfortunately this can result in the animal living in the roof or walls of a house.

A great way you can create habitat for marsupials like possums and sugar gliders is by installing a nesting box in a tree on your property. Nesting boxes are designed to supplement tree hollows and to entice the animal into the box, you can place some fruit near the nesting box to encourage them to go inside.

If you choose to build your own nest box, it is important that you follow a specification guide so that the measurements and materials used to make the box are safe and appropriate for the animal.

Check out the 'Build your own Wildlife Nest Box' guide for more information.



Lizards

If you're an avid gardener, then you will want lots of lizards in your backyard. Having lizards and skinks in your backyard is an excellent way to naturally keep pests out of your garden such as slugs and snails which constantly eat crops from the veggie patch.

There are many different types of lizards in the Cumberland LGA, the most common types that you may find in your backyard include blue tongue lizards, skinks and water dragons.

If you would like to attract lizards to your garden it is very simple to do so. Ensuring that you plant plenty of native grasses and ground cover plants will provide lots of hiding spaces for lizards to protect themselves from predators. If you aren't a fan of ground covers you can mulch your plants instead, this will not only conserve moisture in your soil but will also provide shelter for any lizards in your garden.

Include larger rocks and logs in your garden. As lizards are cold blooded animals, they rely heavily on sunning themselves to maintain their body temperature. Having access to hiding spots in grasses, leaf litter or mulch will ensure that the lizards can sunbake and quickly retreat from predators.

Provide a shallow bowl of water or even better, have a pond in your backyard. Lizards love to have a drink of water and a pond can also attract other animals to the garden such as frogs. If you do have a pond, try adding some rocks or sticks around the edges to act as a safety ramp, should any lizards fall in. Water dragons are more likely to venture into your yard if you have an outdoor fishpond or body of water on or near your property.



Microbats

Did you know that Australia has more than 60 different types of microbats? These animals are rarely seen as they are so small. The smallest microbat weighs only 3 grams.

Microbats are small, flying mammals. They are distinguished by their furry body, small eyes and wings and large ears. Microbats rely heavily on echolocation to navigate around their environment, which is why their ears are so much larger than their eyes. Not only are microbats small but they are also nocturnal, so the chances of seeing one in person is very slim, nevertheless microbats play a big part in our ecosystem.

Microbats eat large amounts of insects and invertebrates; they can consume as much as 40% of their own body weight in a single night of foraging. This makes them ideal for keeping unwanted mosquitos and moths out of the backyard. A single microbat can eat up to 1200 mosquitos in one hour.

Microbats rely on small spaces to live and hibernate in. In the wild, microbats will nest in small cavities and tree hollows, in the urban environment these nesting sites are scarce. To support microbats in your backyard, you can put up a microbat roostbox on your property.

A microbat roostbox is different in its design when compared to bird and possum nesting boxes. It is made from timber with a square roof and a small slit opening at the bottom of the box. The bottom of the box can contain multiple slits openings, each approximately 15cm in width to accommodate multiple microbats. The inside of the nest box is lined with shade cloth so that the bats have some material to grip onto and the box is mounted onto a backboard with either bark, grooves or more shade cloth to facilitate as a landing pad for the bats. If you make your own nesting box, always be sure to use untreated pine.

When installing a roostbox for microbats, positioning is crucial for its success. You want to ensure that you install the box in a location that gets plenty of shade during the hottest part of the day. The location must also not be in full shade all day. The most ideal location is in a tree with foliage, that also gets sunlight. It's even better if you install more than one roostbox on your property as microbats will fly between boxes depending on if one box is either too hot or too cold. Roostboxes should be mounted between 3 – 5 metres off the ground.



Pollinators and other insects

Insects and invertebrates play an important role in our ecosystems. Insects can act as pollinators, improve our soil health, and feed other animals within the ecosystem such as birds, bats, lizards and frogs.

Having lots of bugs in your backyard indicates that your yard is thriving with life and the easiest way to maintain a yard teeming with life is to refrain from using heavy pesticides and insecticides.

Many people will spray their property regularly to prevent pest such as cockroaches and flies. Unfortunately spraying not only kills undesirable insects, but it also kills beneficial garden insects such as bees, lady bird beetles and praying mantis. Insects are the best biological control against other insects. For example, having spiders around the backyard will drive away flies and cockroaches as they get trapped in the webs and eaten by the spider.

Instead of using pesticides or insecticides, consider using alternative, low impact pest control methods such as a mosquito/fly traps or citronella candles.

To actively support our native bees, Council runs a Native Bee Program which is open to all Cumberland Residents. Our program offers residents the chance to host one of Council's native stingless beehives in their backyard.

The sugar bag bee (*Tetragonula Carbonaria*) is the native bee local to the Cumberland area and is the bee that we use in our program. These social bees are stingless and are great pollinators for your backyard. Sugar bag bees do produce honey however, they only produce a small amount which they require to survive over the winter period. Our program does not harvest the bees honey, we use them for pollination only.

If you are interested in joining Council's Native Bee Program visit our website for more information www.cumberland.nsw.gov.au/native-stingless-bee-program.

Not all bees are social and live in a hive, in fact the majority of Australian Native Bees are solitary. You can support solitary bees such as the Blue Banded Bee by creating and installing a bee hotel on your property. A bee hotel essentially is a mimic of the bee's natural habitat, created by drilling specific holes into wood or clay material to create a cavity for the bee to lay its eggs in.



Species	Material	How to build
Blue Banded Bee	Clay	You can make Blue Banded Bee hotels by packing clay soil or builders clay into 14cm lengths of downpipe or PVC. Poke holes into them before the clay has completely dried. Place the blocks together in a sheltered location with morning sun.
Resin Bee	Pithy stem/ wood/ bamboo bundles	A bee bundle is the cheapest and easiest bee hotel to make. Use bamboo cane or twigs with pithy stems at least 10 cm long. Make a bundle as large as you like and secure it with tape or string. Securely fix the bundle to a solid surface in a sheltered position and you're all done!
Leafcutter Bee	Wood/ pithy stem	Holes drilled into a log can be all you need. If you don't have any logs you can use hardwood blocks instead, just make sure the wood hasn't been treated. Drill holes into the wood ranging between 3mm and 8mm in diameter and to a length of at least 10 cm. Place the logs or blocks under shelter and off the ground if you can.

Frogs

Frogs are a valuable part of our environment and have an important role in our ecosystem. Both predators and prey, these amphibians fill a key link in the food chain. In your backyard they can do an amazing job helping to control pest insect populations. Unfortunately, due to habitat loss, climate change and pollution, frog populations around Australia are declining at an alarming rate.

With a few simple changes you can create a frog friendly backyard which will provide habitat for our native amphibians and encourage them to live in our neighbourhood.

Minimising the use of pesticides in your garden is very important. The permeable skin of frogs makes them very susceptible to any chemicals they encounter. It is also important to minimise areas of lawn. Frogs require shelter and protection from predators and are unlikely to venture onto lawns.

One of the best ways to attract frogs to your backyard is by creating your own frog pond.

Frogs require water to breed so a frog pond is the best way to attract them. A frog pond needs careful planning and preparation, here's some factors that you may want to consider when creating your pond:



- Location – Where you establish your frog pond is very important. Somewhere that is well shaded but also receives some sunlight during the day (about 70% shade and 30% sun) is ideal. Also remember that frogs can be very noisy at night, so consider whether the noise will impact on any rooms close to your pond.
- Safety – A pond needs to be safe for children and fenced off if necessary
- Mosquitoes – A frog pond can be a prime location for mosquitoes to lay their eggs in. Some types of native fish can help control mosquito larvae, however you must take care to select species that are frog-friendly and will not eat or destroy frog eggs in your pond

There are a number of ready-made ponds you can buy that can simply be dug into place, or you can create them using household items such as bathtubs, sinks, or children's pools.

You can even opt to dig your own pond. Ideally your frog pond should have gentle sloping sides so that frogs can climb in and out easily and be at least 50 centimetres deep in one spot. Use a sheet of thick plastic known as a pond liner to prevent water from escaping. This type of liner can be purchased from hardware stores or pond product suppliers. Fill the pond with tap water and ensure that you let it stand for at least a week to allow chlorine and other chemicals in the water to dissipate.

Frogs and tadpoles also need a variety of plant life, both in and out of the water. By growing a variety of local native plants such as Brahmi (*Bacopa monnieri*) and Frog Grass (*Carex fascicularis*), you can provide shelter for your frogs and tadpoles. It is important to make your backyard structurally diverse with a variety of plant types including trees, shrubs grasses and ground covers. Logs and rocks will also provide habitat for frogs and the insects which are their main source of food.

What if I don't have a backyard?

Just because you don't have a backyard doesn't mean you can't bring nature to your home. Any space, even the size of a balcony, can be enough for starting a garden. With a bit of creativity, you can transform your small spaces into a welcoming place for native wildlife. Here's some tips to green your courtyard, balcony or windowsill:

- Use a trellis or reinforced mesh to support climbing plants
- Grow flowering plants to attract bees and other beneficial insect to your space
- Hang well-secured baskets or planters and fill them with herbs, succulents or flowering plants
- Use pots! Herbs, dwarf trees and some native shrubs can be grown in pots or other containers. Water according to your plants needs and position. Plastic pots hold more moisture than terracotta or concrete, so choose the right pot for your plant.

Another great way to improve the biodiversity of Cumberland LGA is by joining one of Council's Bushcare Volunteer Program. Being part of one of the Volunteer Bushcare Groups is a great way to care for our environment and give something back to the Cumberland community. You'll make a real difference to the environment as well as meeting new people and having fun.

If you are interested in joining the Bushcare Volunteer Program or would like further information about Bushcare you can call Council on **8757 9000** or visit www.cumberland.nsw.gov.au/bushcare-volunteer-program

Recommended plants to attract animals

Local native plants for the Cumberland LGA							
Botanical name	Common name	Height (m)	Width (m)	Full sun	Partial sun	Attract birds	Attract B'flies
Native grasses, ground covers and climbers							
Brachycome augustifolia	Native Daisy	0.15	1-1.5	●	●		●
Carex longibrachiata	Weeping Sedge	0.5	0.3	●	●	●	
Convolvulus erubescens	Australian Bindweed	0.2	1	●	●		
Austrodanthonia sp	Wallaby Grass	0.8	0.5	●	●		●
Dianella longifolia	Smooth Flax Lily	0.5-1	0.5-1	●	●	●	
Dichelachne crinita	Long Hair Plume Grass	0.6-1	0.5	●	●		●
Dichondra repens	Kidney Weed	0.2	1	●	●		
Hardnebergia violacea	Purple Twining Pea	Climber		●	●		●
Hibbertia diffusa	Wedge Guinea Flower	0.2	0.5	●	●		
Kennedia rubicunda	Dusky Coral Pea	Climber		●	●	●	
Lomnandra longifolia	Spiny Headed Mat Rush	1	1	●	●		●
Pandorea pandorana	Wonga Wonga Vine	Climber		●	●		
Polymeria calycina	Polymeria	Climber		●	●		●
Scaevola albida	Pale Fan Flower	0.2	0.5	●	●		
Themeda australis	Kangaroo Grass	1	0.5	●	●		●
Viola hederacea	Native Violet	Ground cover			●		●
Wahlenbergia stricta	Tall Bluebell	0.3	0.4	●	●		

Local native plants for the Cumberland LGA							
Botanical name	Common name	Height (m)	Width (m)	Full sun	Partial sun	Attract birds	Attract B'flies
Shrubs							
Acacia falcata	Sickle Wattle	4-6	2-3	●	●	●	
Bursaria spinosa	Blackthorn	2-5	1-2.5	●	●	●	●
Callistemon citrinus	Red Bottlebrush	0.6-1	2-3	●	●	●	
Daviesia ulicifolia	Gorse Bitter Pea	1	1	●	●	●	
Dilwynia sieberi	Eggs and Bacon	1-1.2	1	●	●	●	
Dodonaea triquetra	Common Hop Bush	1-3	0.5-2	●	●	●	
Dodonaea viscosa	Sticky Hop Bush	2-3	1-2	●	●	●	
Indigofera australis	Native Indigo	2-2.5	1-2	●	●	●	
Kunzea ambigua	Tick Bush	2-3	2-2.5	●	●	●	
Maytenus silvestris	Orange Bush	1.5-2	1-1.5	●	●	●	
Melaleuca erubescens	Rosy Paperbark	1.5-2	1-1.5	●	●	●	
Melaleuca thymifolia	Thyme Honey Myrtle	0.5-1	0.3-0.8	●	●	●	
Notelaea longifolia	Large Mock Olive	3-5	2-4	●	●	●	
Ozothamnus diosmifolius	Ball Everlasting	1-2	0.5-1	●	●	●	
Pittosporum revolutum	Wild Yellow Jasmine	3-6	2-5	●	●	●	
Pultanaea microphylla	Spreading Bush Pea	1	0.5	●	●	●	●
Pultanaea vilosa	Bush Pea	1-1.5	1	●	●	●	●
Rapanea variabilis	Muttonwood	2-2.5	1.5-2	●	●	●	

Local native plants for the Cumberland LGA							
Botanical name	Common name	Height (m)	Width (m)	Full sun	Partial sun	Attract birds	Attract B'flies
Shrubs							
Acacia decurrens	Early Black Wattle	5-15	5-8	●		●	
Acacia Parramattensis	Sydney Green Wattle	6-8	3-5	●	●	●	
Acmena smithii	Lilly Pilly	8-20	4-15	●	●	●	
Angophora floribunda	Rough-barked Apple	10-25	6-15	●	●	●	
Backhousia myrtifolia	Grey Myrtle	2-7	1.5-3	●	●	●	
Eucalyptus fibrosa	Red Ironbark	15-20	10-15	●	●	●	
Eucalyptus moluccana	Grey Box	10-25	10-20	●	●	●	
Eucalyptus sideroxylon	Mugga Ironbark	10-30	8-20	●	●	●	
Exocarpos cupressiformis	Native cherry	6-8	3-5	●	●	●	
Melaleuca decora	White Cloud Tree	4-7	1.5-2.2	●	●	●	
Melaleuca styphelioides	Prickly Leaved Paperbark	5-10	3-6	●	●	●	

What to do when you encounter unwanted plants and animals in your garden?

As we work on creating backyard havens for local wildlife, it's essential to be mindful of invasive plants and animals that can disrupt the natural balance of your ecosystem. These non-native species can pose a real threat for our native flora and fauna, so it's important to stay vigilant.

Invasive plants

Invasive plants are known for their ability to spread rapidly and outcompete native vegetation. Certain species also have a tendency to become 'backyard escapees' spreading beyond the confines of your backyard and affecting surrounding areas. By identifying and managing these species, you can help protect the integrity of your garden as well as the surrounding environment.

You can stay informed about problem weeds in your area by visiting the [NSW WeedWise](#) website.

Problem animals

While trying to encourage wildlife to come into our backyard, we can also inadvertently attract animals which can pose a threat to our safety or create problems on our property. Here's a few critters which could cause you some trouble and what you should do if you encounter them in your garden.

Bees and Wasps

If you have something buzzing in your backyard, they're unlikely to cause a big problem. The best policy is usually to just leave them 'bee'. However, if you have a swarm or nest somewhere unsafe or unavoidable, say outside your front door you may need to take steps to have them removed.

For bees it's best to search online for beekeepers in your area or a local beekeeping association or club. This is usually preferable to calling a pest controller who will normally exterminate rather than considering humane removal.

For wasp nests in high-traffic unavoidable parts of your house or garden, an exterminator is often the only option. Do not try to remove wasp nests yourself as this can lead to injury.

Snakes

If you find yourself with a snake basking in your garden or escaping the rain on your back porch, be sure to keep a safe distance and never approach the snake. Ensure that you keep your children and pets away from the snake until it has moved on. Most snake bites happen when people attempt to capture or kill a snake themselves and it protects itself. Snakes play an important role in the natural environment and are protected under environmental legislation. You should never attempt to harm or remove them yourself.

If the snake does not move along on its own or it is presenting a danger to you, the best option is to call a professional to remove it.

Possums in the roof and walls of your house

Brushtail and Ringtail possums have adapted well to the urban environment. They are two of the last remaining survivors of the many native mammals once present in the area.

Possums are tree-dwelling marsupials that like to nest in old trees that provide dense foliage and good hollows. The loss of this habitat due to land clearing, development and the "openness" of parks and gardens has forced many possums to take refuge in the roofs and walls of houses.

For assistance with snakes, possums or other wildlife on your property you can call the following wildlife services:

- WIRES (Wildlife Information, Rescue and Education Service) - 1800 641 188
- Sydney Wildlife – 02 9413 4300

Useful websites

- www.abc.net.au/gardening/how-to/building-a-bat-box/9432924
- www.backyardbuddies.org.au/habitats/build-a-frog-pond
- www.backyardbuddies.org.au/habitats/build-a-bee-hotel
- weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=50
- backyardbuddies.org.au/habitats/build-a-nest-box
- www.lls.nsw.gov.au/_data/assets/pdf_file/0006/656610/GS-LLS-Wildlife-Nest-Box-10-2017-Accessible.pdf





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