Lake Macquarie

Backyard Habitat Planting Guide

Lake Macquarie City Council

A resource of the
backyard & beyond program

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Introduction

Urban bushland is important to the Lake Macquarie community. It provides food and habitat for native fauna species, helps conserve Australian native plants and provides us with a recreational place to be close to our flora and fauna.

Lake Macquarie City is rich in biodiversity, supporting hundreds of native species.

Biodiversity can be defined as the variety of life forms, including flora and fauna, the genes they contain and the ecosystems in which they live.

Many species native to Australia are found nowhere else in the world.

Kookaburra

What's in this guide?

This guide contains information to help you improve your backyard biodiversity, and learn how to create your own habitat garden. Use the plant selector table on page 26 as a starting point to choose suitable plants for your garden. This guide also contains information on keeping pests and feral animals away, planning your garden for bushfires and attracting a variety of native fauna.

Backyard Habitat for Wildlife gate sign

About this guide

This booklet has been produced as part of the Lake Macquarie City Council 'Backyard Habitat for Wildlife' program. The program is free to join and provides an opportunity for urban residents to create suitable habitat for native wildlife in their neighbourhood.

Backyard Habitat for Wildlife Program


Land for wildlife signage

When you join you receive:

- two free native plants;
- an information pack;
- discounts at participating nurseries;
- a gate sign;
- networking opportunities;
- invitations to free workshops;
- an Ecoadvocate subscription;
- factsheets on frog ponds and nest boxes; and
- personal health benefits from gardening and being outdoors.

To join the Backyard Habitat for Wildlife program, email Council at **council@lakemac.nsw.gov.au** or phone **4921 0333.**

The Backyard Habitat for Wildlife program builds on the Land for Wildlife program initiated by the Community Environment Network (CEN) on the NSW Central Coast.

The Land for Wildlife program is a voluntary property registration scheme for rural landowners who wish to manage their property to promote biodiversity and wildlife habitat.

For more information on the CEN Land for Wildlife Program visit **www.cen.org.au/Land-for-Wildlife.**

Importance of bushland in Lake Macquarie

It is important to maintain bushland areas to conserve the ecology of Lake Macquarie City.

Bushland areas and corridors provide:

- an increased foraging area for a wide range of species;
- access to a diverse range of habitats; and
- refuge from disturbance.

Corridors also provide a link between wildlife populations, which helps maintain genetic diversity.

Human activity puts pressure on bushland, with a number of plant and animal species in Lake Macquarie City listed as 'vulnerable' or 'endangered' because of changes to their habitat. Everyone in Lake Macquarie can help ensure the survival of our native flora and fauna by planting local native species in their backyards.

Just under 60% of the land area in Lake Macquarie City is covered by bushland

(State of the Environment Report, 2012)

Powerful Owl
Photo: Chris Herbert

Environmental Sustainability Action Plan

The Lake Macquarie City Environmental Sustainability Action Plan lists a series of goals and actions to be undertaken to make Lake Macquarie a more sustainable place to live. Some of these actions are to increase the use of native species in Council operations and rehabilitate disturbed areas with native species after construction works and weed removal.

This Backyard Habitat Planting Guide will help you to create a garden that encourages the growth and preservation of native flora and fauna, and help Council meet its biodiversity enhancement goals.

The Environmental Sustainability Action Plan can be found on Council's website at **www.lakemac.com.au.**

Landcare

Landcare is a volunteer organisation devoted to caring for the environment in a hands-on and practical way.

In Lake Macquarie there are over 330 Landcare groups working on a variety of projects on public land across the city. These projects include removing weeds from a local bushland, and stabilising the coast and lake foreshore with native plants.

To find a group near you, contact the Landcare Resource Centre on **4921 0392** or visit **www.lakemacquarielandcare.org.**

Landcare volunteers

Threats to bushland

Human impact, in particular land clearing, has created many threats to native bushland. In Lake Macquarie, the four most common threats that you can help minimise are weeds, dumping rubbish, pets and feral animals.

Weeds

A weed is simply a plant that is growing in the wrong place at the wrong time, and has a detrimental effect on the environment, economy or human health. Some of the worst weeds in native bushland have escaped from gardens. When this happens, invasive plants can reproduce and aggressively invade natural habitats, crowding out and threatening native plants. Weeds out-compete desired plant species for available food, water and space.

Weeds spread by:

- water - during rainfall seed is washed down slopes and can spread rapidly along streams;
- vegetatively – weeds create 'blankets', smothering other plants;
- berries – animals eat the berries and deposit the seeds some distance away;
- wind – the seed may be carried a considerable distance by the wind; and
- humans – dumping garden waste or transferring seeds or fragments on vehicles, machinery, footwear, in soil and landscaping supplies.

Common weeds in Lake Macquarie include;

Asparagus Fern, Lantana, Madeira Vine, Morning Glory, Privet and Blackberry.

How you can help

You can help stop weeds escaping your garden by:

- planting only local Australian natives (see the plant list on page 26);
- covering your compost so seeds cannot be spread by wind or animals;
- removing seed heads from plants before they have time to mature and disperse;
- composting or disposing of garden weeds in your kerbside bin, or by carefully transporting it to Council's Waste Management Facility at Awaba; and
- reporting any weed infested vacant blocks to Council.

65% of the exotic plant species that naturalised in Australia between 1971 and 1995 were introduced as ornamental or garden plants.

(Cooperative Research Centre for Australian Weed Management, 2012)

Illegal dumping of garden waste

'Waste' isn't just rubbish. Your garden waste can include; mulch, branches, lawn clippings, leaves and unwanted dead plants.

A fine is not the only cost of illegally dumping garden waste. Dumping destroys native bushland and animal habitats by introducing disease, weeds and pests. It also increases the risk of bushfires and detracts from the aesthetic value of natural areas.

Compost bin

If you have garden waste, there are a few ways you can safely dispose of it.

1. Compost – if you have a compost heap or bin, put the garden waste in there. Composting is the best way to make your own organic fertilizers. If your plants have disease, do not compost them.
2. Green waste bin – you can put grass clippings, twigs, prunings, small branches, leaves and garden weeds in this bin.
3. Awaba Waste Management Facility – residents can take their garden waste to Council's landfill. Tipping fees and charges apply.

Illegal dumping costs local and state governments and the community more than 10 million each year in prevention and clean-up costs.

(NSW Environment Protection Authority, 2012)

Pets and feral animals

Pet cat
Photo: PhotoXpress

Pets

Cats and dogs hunt; it is a natural instinct for them. Unfortunately, this means they often hunt native birds, lizards and mammals. Most wildlife killed by roaming pet cats is caught close to their homes. Often a captured bird or possum will appear undamaged but, almost certainly, it will die within 36 hours from shock or infection. Cats can also carry Toxoplasmosis, a disease which can devastate wildlife populations.

Some ways you can help protect native fauna include:

- keeping your dog and cat indoors at night;
- putting a bell on your cat's collar;
- de-sexing your pets – neutered pets are often less aggressive and predatory;
- installing a cat-proof birdbath. Use a small shallow bowl about 3cm deep with rope or chain attached to allow for hanging. Hang the small bowl within the foliage of a prickly shrub to provide security to small birds whilst they drink and bathe; and
- surrendering unwanted pets – never dump them into the bush as they will kill native animals to survive. Instead take them to the RSPCA or contact Hunter Animal Rescue by telephoning **0411 581964** or email **committee@hunteranimalrescue.com.au.**

Feral animals

Introduced fauna species have become pests affecting local biodiversity and urban environments. Common pest species in Lake Macquarie City, which include foxes, rabbits and Indian Myna birds, contribute to the decline of native species and can cause problems to humans.


Indian Myna Bird

You can deter feral animals from coming into your backyard by:

- not feeding wild animals;
- replacing weeds with native plants, which provide habitat for local fauna;
- not leaving uncovered pet food in your yard, which is food for Indian Myna birds; and
- erecting a fox-proof fence to protect your chickens - approximately two metres in height either dug in at the bottom, or turned out at least 30cm across the ground.

Benefits of native gardens

Native plants play a large role in maintaining the biodiversity of both flora and fauna in Australia.

Native plants:

- are well adapted to the local soil and climatic conditions if grown naturally in the local area;
- are able to tolerate local climatic extremes, such as frost or periodic drought;
- provide the right habitat and food for native animals, birds and insects;
- may grow faster and hardier than exotic species and be less susceptible to local pests and diseases;
- provide shade and can help modify local temperature extremes; and
- do not develop into an ongoing weed problem.

Around 400 litres of water can be saved per year for every square metre of irrigated lawn area replaced with mulched beds of indigenous plants.

(Knox City Council, Victoria)

Creating a habitat garden

What is a habitat garden?

A habitat garden is a garden that provides natural food, shelter and water for native Australian fauna. Habitat gardens are grown using native Australian plant species.

In a good habitat garden you could expect to see a wide variety of animals such as birds, butterflies, moths, lizards, possums, frogs and insects either living in, or visiting your garden.

Layers of a habitat garden

A habitat garden needs different layers to be effective. Figure 1 outlines these layers and examples of plants that make up each layer.

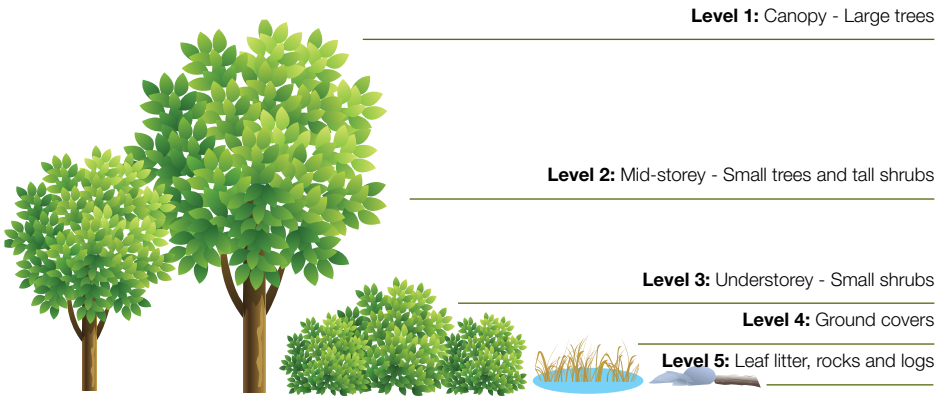
Different animals feed and shelter in different layers of vegetation, with some species feeding in one level and sheltering in another. By planting a variety of different sized plants you will attract a wider variety of wildlife. Keeping dead wood, leaf litter and rocks also provides habitat for small mammals, reptiles and insects (see also the Planning for Bush Fires section on pages 18-21).

Recipe for a habitat garden

A tall, mature tree, native to your area
A patch of natural mulch for beetles and worms
A clump of dense shrubs where birds can shelter
Nectar plants for honeyeaters
A cat-safe birdbath
A frog-friendly pond with unpolluted water
A warm, sheltered rocky corner for lizards
Flowering natives for insects and butterflies
Native grasses for small, seed-eating birds

The more layers in your habitat garden the higher the number of potential habitats or places to live for native species.

Figure 1: Example showing a cross section view of the five layers of vegetation



In natural bushland there are five main structural layers (or storeys) where wildlife feed, shelter or breed. Four of the layers comprise vegetation cover and the fifth is the leaf litter, logs and rocks found on the ground. When developing your garden, try to mimic these different layers.

Layer	Layer Description	Examples
Canopy	Tall trees (>5 m) provide resources for a large number of species	Lilly pillies, eucalyptus, angophoras
Middle-storey	Smaller trees and tall shrubs (up to 5m) provide shelter and rich sources of nectar and insects	Wattles, banksias, sheoaks, tea trees, bottlebrushes, native pines
Small shrub layer	Shrubs (0.5 – 1m)	Low wattles, correas, hop-bushes, hakeas, bush peas
Ground layer	Small shrubs and herbs (<0.5m), supports a rich insect fauna and in turn, many vertebrate fauna	Sedges, lilies, grasses, creepers, orchids, saltbushes, ferns, fungi, lichen
Litter layer	Ground elements that provide habitat where animals can forage or shelter, reduce moisture loss, and harbour decomposers such as fungi and bacteria	Leaf litter, twigs, fallen branches, logs and rocks

The ground layer and small shrub layer are very important as they provide many natural functions such as:

- natural weed control;
- habitat and protection for smaller species in the food chain;
- encouragement of smaller birds;
- erosion protection and enrichment of the soil;
- the ability of some species to fix nitrogen into the soil assisting other species to grow (e.g. wattles);
- the maintenance of biodiversity and genetic resources; and
- ensuring a suitable environment for regeneration of canopy trees.

It is important to conserve remnant native understorey as it represents 90 per cent of native plant biodiversity and impacts directly on the types of wildlife residing in your garden. See the plant selection table on page 26 for a list of suitable native understorey species you can plant in your garden.

Remember that your small backyard garden contributes to a larger neighbourhood bushland community including local parks, creeklines, and even your neighbour's garden.

Attracting native fauna

Flowering year round

In the bush, there is always something flowering. Providing autumn and winter flowering plants will encourage native fauna to visit your garden year round. The plant selector table on page 26 outlines the various flowering times of the different plant species.

Attracting birds

Small birds use dense thickets of shrubs and trees with sharp or prickly foliage as a refuge from weather, larger birds, cats and dogs.

The provision of a water source is essential to encourage birds to visit your garden, especially during the summer months. A pond or birdbath is an easy way to provide water. However, any pond with a depth of 30cm or more requires Council consent and should be fenced.

Hollows provide important habitat for many native animals and birds for shelter and nesting. Hollows are formed in mature native trees that can be retained in your garden or can be provided in the form of nest boxes. See the section on nest boxes on page 15 for more information.

Rainbow Lorikeet
Photo: Vanessa Pike-Russell

Butterflies and beneficial insects

'Beneficial insects' feed on common garden pests such as aphids, caterpillars, and other grubs, all without the need for pesticides. They also help to pollinate our fruit and vegetable crops.

Praying Mantis
Photo: Maree McCarthy

- Ladybirds, lacewings and praying mantis eat scales, mealybugs, aphids, moth eggs and small caterpillars;
- Butterflies provide food for birds, lizards and other wildlife, which in return, keep your garden clear of pests. Butterfly larvae eat beetles, caterpillars and aphids; and
- Native blue-banded bees, teddy bear bees and carpenter bees are excellent pollinators.

The best way to attract insects is to plant a variety of species as food sources, keep leaf litter for insects to live in, and don't use pesticides.

Frog Pond
Photo: Graham Pritchard

Frogs

Native frogs can be attracted to your backyard by building a pond where they can feed and breed. Ponds don't need to be large as frogs only use them as a place to lay their eggs and will spend a lot of time hiding in your garden. Provide a mulched or densely planted area with rocks for basking next to your pond to keep the frogs moist and attract insects for food.

To make your frog pond child-safe, you can install a wire mesh just below the surface, fence the pond off or put a checkerboard of stones across the pond.

Small local native fish such as rainbow fish, pacific blue eyes, Australian smelt or cloud minnows will eat mosquito larvae. Don't add mosquito fish to your pond as they eat tadpoles and pose a threat to native fish and frogs if they escape into local waterways. Any pond with a depth of 30cm or more requires Council consent and should be fenced.

Reptiles

Lizards require debris for shelter and retreat from predators through camouflage. Cover includes leaf mulch, hollow logs, bark, rocks and vegetation such as groundcovers or small shrubs where lizards can also forage for food.

Avoid using pesticides that will kill insects, snails and slugs. Lizards may be killed by eating snail bait or through eating insects affected by these chemicals.

Eastern Water Dragon
Photo: Maree McCarthy

Mammals

Mammals such as wallabies, possums, koalas, kangaroos and echidnas may visit your garden. These larger animals are generally more adept at fending for themselves, and are unlikely to make a home there (the exception being possums). If you do see any mammals, enjoy the sight but don't feed them and keep your pets away.

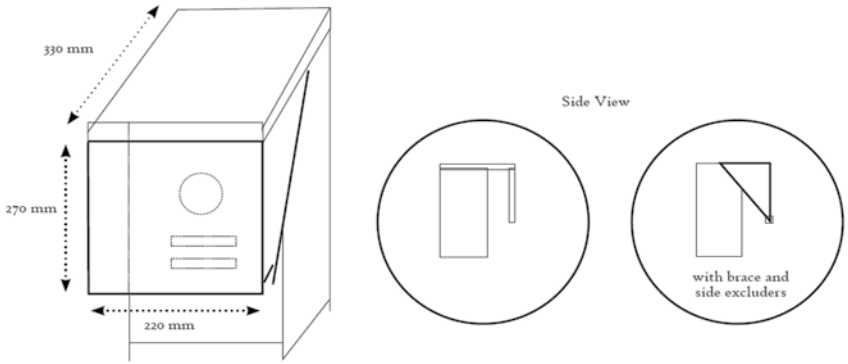
Young brushtail possum using a tree hollow

Nestboxes

If you have no mature native trees with hollows on your property, breeding and nesting sites can be created by installing nest boxes for wildlife. These are cheap and easy to make, and are also available to buy.

Different types of nest boxes will attract different species of birds and possums. Micro-bats and small gliders can enter small holes or gaps (20 – 30mm diameter) while brushtail possums, some parrots and owls require large entrance holes (100mm diameter). The orientation of the box will also affect who comes to live there. Kookaburras, lorikeets and some pardalote species prefer horizontal boxes, whereas cockatoos, gliders and possums prefer vertical boxes.

Indian Mynas can take over nest boxes. To prevent this you can add a baffle to the box. A baffle is just a piece of wood attached to the front of the nest box to hide the opening. Indian Mynas fly straight into their nesting hole, and won't navigate around a baffle.



www.birdsinbackyards.net provides an excellent fact sheet on designing nest boxes to attract different species and keep out pests.

Living in harmony with wildlife


Ringtail Possum
Photo: Erica Siegal

Possums are native species, but can take up residence in roofs and buildings in urban areas. Possums sleep in tree hollows, or in the case of ringtails, dreys (a nest made of twigs) up to four metres high in trees. Hollows take up to one hundred years to form and as clearing for development has occurred the number of available tree hollows has sharply declined.

You can help keep possums out of your house by installing a simple nest box in one of your trees where it will be shaded and sheltered from wind and rain. Please don't put food in the box to attract animals. Once you are sure the possum is outside your roof, block up the entry holes it was using to get in.

Snakes, although frightening to many people, are an important part of the ecosystem. Snakes are also protected, and killing one is an offence. They are generally not aggressive, and because we are too big to eat, they are not interested in us. Snakes only attack when they feel threatened.

You can help keep snakes away from your house by:

- controlling mice and rats living in or around your house;
- removing hiding places such as rubbish piles and building materials;
- removing food sources that attract rats and mice, such as pet food;
- stopping snakes from entering your house by blocking access holes into ceiling space and using weather stripping on doors and windows;
- maintaining a clear belt around your house free of debris and long grass; and
- if you have compost heaps or wood piles, keep them well away from your house.

Do not try to catch or handle a snake.
Contact your nearest National Parks and Wildlife Office for advice on identification and removal.

National Parks and Wildlife Services - 4972 9000
Native Animal Trust Fund - 0418 628 483

Planning for bush fires

Bush fires are part of life in Australia, and are most likely to occur in spring and summer. To help stop the spread of bush fires it is important to consider the type and placement of plants in your garden. You can design your habitat garden to reduce the threat of bush fires. Designing and planting a habitat garden does not mean planting a forest. It means providing a diverse range of vegetation types and structures and other habitat features such as rocky areas.

Rules and regulations

Council has a map of bush fire prone land in the city available on our website **www.lakemac.com.au.** Large areas of the city are mapped as bush fire prone land.

If you live near bushland you should take precautions to protect your home and family by preparing a 'Bush Fire Survival Plan'. A template to assist you to prepare this plan is available for download from the NSW Rural Fire Service's website **www.rfs.nsw.gov.au.** Further information is also available on Council's emergency ready webpage **www.lakemac.com.au/emergency-ready.**

If you live in a bush fire prone area, you may need to have an Asset Protection Zone (APZ) around your house. An APZ is a buffer between the bush fire and your house.

It has an:

- Inner Protection Area (IPA) closest to buildings, where fire fighting can occur; and an
- Outer Protection Area (OPA) designed to reduce flame length, slow fire spread, filter embers and suppress crown fires.

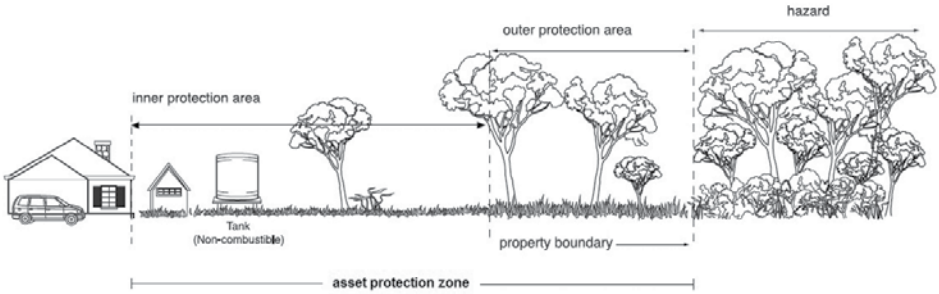


Figure 2: Asset Protection Zone (source: NSW RFS, 2006)

If you think you need to create an APZ you may need to obtain environmental approval. The NSW Rural Fire Service (RFS) offers a free environmental assessment and certification service for essential hazard reduction works. For more information see the RFS document 'Application Instructions for a Bush Fire Hazard Reduction Certificate' or contact your local RFS Fire Control Centre to determine if this is the appropriate approval process for your circumstances.

In the APZ the fuel load should be managed so it is progressively reduced, with the least amount of fuel closest to the house. This approach aims to reduce the potential radiant heat levels, flame contact, ember and smoke attack on life and property.

Reduction of fuel does not mean removing all vegetation, which would cause environmental damage. Instead you can plant fire retardant species, and landscape for bush fire protection.
(see page 21 for more information on fire retardant plants)

Bushfire asset protection zone sign

Planning your garden for bush fire

A well-planned garden can be created in an APZ however **it is recommended that dense vegetation not be planted too close to your house.**

Below are some general rules to follow to minimise the risk of bush fire in your habitat garden.

Landscaping

- When planting a habitat garden landscaping elements such as open space, paths, gravel areas, entertainment areas and native lawns can be used to create breaks in the vegetation;
- Have taller plants away from the house staging down to smaller shrubs closer to the house;
- Plant trees and shrubs so that:
  - the branches will not overhang the roof;
  - the tree canopy is not continuous; and
  - they create a windbreak in the direction from which fires are likely to approach.
- Ensure vegetation doesn't provide a continuous path to the house. Maintain a clear area of low-cut lawn or pavement adjacent to the house;
- Keep areas under fences, fence posts and gates cleared of vegetation;
- Plant vegetation into clumps rather than in continuous rows;
- Use non-combustible fencing and retaining walls;
- In bush fire prone areas, use non-organic mulch such as pebbles;
- Use plants closer to the house that can be pruned heavily; and
- Monitor your plants – prune dead limbs and put excess leaf litter in the compost heap or green waste bin.

Fire Retardant Plants

Some plants are generally more flammable than others. Many native species are adapted to cope with fire.

Grow species that are less likely to encourage fire closer to the house. Species that are less likely to ignite are included in the plant selector table on page 26.

Please note there is no such thing as a non-flammable plant. All plants burn if they dry out and are exposed to enough heat.

Pigface (Carpobrotus glaucescens) is a fire retardant species

Plants that are harder to burn have the following features:

- high moisture content – leaves that are larger and thicker with smooth edges take more heat to dry out and ignite;
- high levels of salt;
- low volatile oil content of leaves – e.g. some eucalypts and melaleucas are not suitable as they burst into flames on heating and increase fire intensity. If you hold a leaf up to the sun and look through it, you can sometimes see little spotty oil glands; and
- have smooth bark which produce less litter.

Trees with loose, fibrous or stringy bark can more easily ignite and encourage fire to spread through the crown of the trees.

Maintain a clear space between the canopy of trees and the understorey to reduce the vertical spread of fire into the canopy.

Example habitat gardens

a

b

a This butterfly habitat garden at Charlestown Swim Centre encourages beneficial insects such as butterflies and ladybirds.

b A hive of native stingless bees pollinate vegetables and native plants at the Lake Macquarie Landcare Resource Centre.

c Native habitat garden (Maree McCarthy, Nature's Magic Garden Designs).

d A Lake Macquarie native garden.

e Council's Administration Building native garden at Speers Point.

f A native cottage garden (Royal Botanic Gardens and Domain Trust).

g Native grass plantings at Charlestown.

h and i Native habitat gardens (Maree McCarthy, Nature's Magic Garden Designs).

Plant selector key

Bird habitat/food

Butterfly habitat/food

Lizard habitat/food

Attracts insects

Frog habitat

Mammals (kangaroos, wallabies, possums, flying fox)

Bush fire retardant

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Grass and grass-like plants							
Ficinia nodosa **Knobby Club-rush** *(was Isolepis nodosa)*		0.5m	Dense round seed heads all year	Sandy to waterlogged, saline, coastal soils	Full sun to shade, very hardy		
Poa labillardieri **Tussock Grass**		1m	Green to purple spikes Spring and Summer	Moist well-drained to clay soils	Full sun to part shade		
Themeda australis **Kangaroo Grass**		1m	Brownish flower heads Spring and Summer	Sandy to clay soils	Full sun		
Baumea articulata **Jointed Twig-rush**		2m	Flowers and fruits in summer	Wet and waterlogged sand	Grows in standing water up to 1m deep in full sun or semi-shade		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Grass and grass-like plants							
Crinum pedunculatum **Swamp Lily**		2m	White flowers Spring and Summer	Tolerates poor drainage and clay soil	Tolerates a wide range of conditions from full sun to shade		
Lomandra longifolia **Spiny-headed Mat-rush**		1m	Cream flower spike, September to November	Adaptable to most soils	Full sun or semi-shade very hardy		
Dianella caerulea **Blue Flax Lily**		0.5m	Bright blue star flowers Spring and Summer	Adaptable to most soil conditions	Full sun to full shade		
Groundcovers							
Brachyscome multifida **Cut-leaved Daisy**		<0.5m	Masses of small pink and mauve daisies Spring, Summer, Autumn	Well-drained sandy soils	Full sun, drought tolerant		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Groundcovers							
Carpobrotus glaucescens **Pigface**		<0.5m	Hot pink to purple flowers Spring and Summer	Well-drained sandy soils	Salt and heat tolerant, suitable for exposed areas and slopes		
Grevillea **'Poorinda Royal Mantle'**		0.2m	Pink-red brush flower heads from Winter to Summer	Best in well-drained acidic soils	Full sun or semi-shade		
Scaevola albida **Pale Fan-flower**		0.2m	White to pale blue lilac flowers in Spring and early Summer	Most well-drained soils	Full sun to part shade		
Tetragonia tetragonioides **Warrigal Greens**		0.2m	Small green yellow flowers late Winter to early Summer	Moist soils	Full sun to part shade		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Groundcovers							
Viola hederacea **Native Violet**		0.2m	Pale violet flowers from June to March	Adaptable to most soil types	Partial sun to full shade		
Climbers							
Hardenbergia violacea **False Sarsparilla**			Purple and white flowers from late Winter to Spring	Well-drained soil	Shade tolerant, prefers to twist through other plants		
Hibbertia scandens **Climbing Guinea Flower**			Yellow flowers in Spring	Adaptable to most soil types	Full sun, very hardy		
Kennedia rubicunda **Dusky Coral Pea**			Red flowers from late Winter to Spring	Well-drained soil	Full sun to part shade tolerant of mild frosts		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Climbers							
Pandorea pandorana **Wonga Wonga Vine**			Cream, tubular flowers in Spring and sometimes Autumn	Adaptable to most soil types	Extremely adaptable to most conditions		
Shrubs							
Acacia longifolia **Sydney Golden Wattle**		2m	Pale yellow flowers late Winter and early Spring	Adaptable to most soil types	Full sun to partial shade		
Acacia suaveolens **Sweet-scented Wattle**		1.5m	Small, round, cream flowers Autumn, Winter and Spring	Sandy, well-drained soil, some salt tolerance	Full sun to partial shade		
Banksia ericifolia **Heath-leaved Banksia**		4m	Autumn to Winter	Adapts to most soil conditions	Suited to any position		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Shrubs							
Banksia robur **Swamp Banksia**		2m	Green-grey flower spikes in Summer and Autumn	Does well in poorly-drained soil	Ideal for damp conditions full sun for flowering, frost tolerant		
Callistemon citrinus **Crimson Bottlebrush**		4m	Bright red flowers in Summer and Autumn	Suitable for any soil, including poorly-drained soils	May be planted in any position including really wet conditions or by the sea		
Cordyline stricta **Narrow-leaved Palm Lily**		3m	Small white and purple flowers in Winter and Spring, fruit purple to black	Prefers moist soil	Prefers semi-shade but is tolerant of dry conditions once established. Can be grown as an indoor pot plant		
Correa alba **White Correa**		1.5m	White flowers in late Autumn and Winter	Sandy, well-drained soil	Shade tolerant, hardy, frost, drought and salt tolerant		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Shrubs							
Grevillea sericea **Silky Grevillea**		2m	Pink flowers in late Winter and early Spring	Well-drained soil	Full sun or part shade		
Leptospermum laevigatum **Coastal Tea Tree**		5m	White flowers in late Winter and early Spring	Adapts to most soil types	Full sun to part shade		
Leucopogon parviflorus **Coastal Beard Heath**		4m	White flowers from Autumn to Spring	Well-drained soil	Full sun		
Melaleuca linariifolia **Snow in Summer**		8m	White bottlebrush flowers in Summer	Tolerates most soil conditions	Prefers sunny, moist position, hardy		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Shrubs							
Melaleuca thymifolia **Thyme Honey-myrtle**		1m	Mauve or reddish flowers from Spring and Summer	Grows well in poorly-drained soil	Full sun to part shade		
Homalanthus populifolius **Bleeding Heart** *(was Omalanthus populifolius)*		4m	Heart shaped leaves turn red before falling, small flowers followed by fruit, Spring and Summer	Adapts to most soil conditions	Sun or semi-shade		
Prostanthera incana **Velvet Mint Bush**		2m	Aromatic leaves, lavender coloured flowers in Spring and Summer	Prefers rich, moist soil	Sunny to part shade		
Westringia fruticosa **Coastal Rosemary**		2m	Small white flowers in Summer	Adapts to a wide range of soil types	Will grow most places from seaside to inland		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Small Trees							
Callicoma serratifolia **Black Wattle**		10m	Cream ball-shaped flowers in Spring	Adaptable to damp soil conditions	Suitable for shady, damp positions		
Elaeocarpus reticulatus **Blueberry Ash**		10m	Pink or white flowers, followed by shiny blue berries in Summer	Moist well-drained soil	Shade or semi-shade		
Glochidion ferdinandi **Cheese tree**		8-10m	Small cheese-shaped fruit from Summer to early Autumn	Adaptable to most soil conditions	Full sun to part shade		
Syzygium paniculatum **Magenta Lilly Pilly**		8m or can be hedged to approx. 4m	Small white flowers Summer to early Autumn, with red fruit ripe in Autumn	Sandy soil	Part-shade		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Trees							
Angophora costata **Sydney Red Gum**		25m	Large white flowers in Spring and early Summer	Sandy, well-drained soil	Prefers full sun		
Banksia integrifolia **Coastal Banksia**		15m	Spring to Autumn	Sandy, well-drained soil	Prefers full sun		
Callitris rhomboidea **Port Jackson Pine**		12m	Yellow flowers from late Winter to early Spring	Adapts to most soil conditions	Prefers part shade but will tolerate full sun		
Eucalytpus robusta **Swamp Mahogany**		30m	White to cream flowers in Autumn and Winter	Prefers moist soil, and can grow in acidic soil	Part sun to full shade, and tolerates drought, salt and wind		

Plant selector table

Name	Photo	Size	Flowers	Soil	Position	Habitat	Fire Retardant
Trees							
Ficus coronata **Sandpaper Fig**		15m	Round hairy fruit turns red purple when mature in Winter, Spring and Summer	Prefers rich, moist soil	Excellent pioneer tree and for shady stream banks		
Melaleuca quinquenervia **Broad-leaved Paperbark**		12m	White flowers twice a year in Winter and Summer	Grows well in all soils.	Full sun, ideal coastal plant		
Syzygium smithii **Lilly Pilly** *(was Acmena smithii)*		10m, but can be hedged to approx 4m	White flowers in late Spring and early Summer	Most soil types except extremely dry or wet	Part to full sun, light frosts only		
Tristaniopsis laurina **Water Gum**		8m	Small yellow flowers in Spring	Tolerates most soils if ample water is available	Adaptable to full sun or part shade but prefers moisture		

Where to get plants

Visit **www.lakemac.com.au/backyard-habitat-for-wildlife** or contact Council's Customer Service Centre on **4921 0333** to find out where you can get native plants.

Alternatively, an internet search for native plant suppliers will produce results of stockists in the Lake Macquarie and Newcastle areas.

References, websites and further reading

References

CRC for Australian Weed Management, cited on Department of Sustainability, Environment, Water, Population and Communities 2012 **http://www.environment.gov.au/biodiversity/invasive/weeds/help/gardeners.html**

Flora for Fauna 2001 **www.floraforfauna.com.au**

Frog Biology: Frogs of the Lake Macquarie Region 2012 **www.bioteck.org/Frog%20Biology/Lake%20Mac.htm**

Hunter Central Rivers CMA: A Guide to Rural Residential Living 2012 **www.ruralresidentialliving.com.au/wildlife/attracting_wildlife.html**

Knox City Council Victoria 2012 **www.knox.vic.gov.au**

Lake Macquarie City Council: State of the Environment Report 2012 **www.lakemac.com.au**

Logan City Council 2012 **www.logan.qld.gov.au/environment-water-and-waste/plants-and-trees/native-plants**

NSW EPA 2012 **http://www.environment.nsw.gov.au/waste/mangardenwaste.htm**

NSW Rural Fire Service (RFS) 2006 Planning for Bush Fire Protection (PBP)

Further reading

Websites

Aussie Bee (native bees) **www.aussiebee.com.au**

Australian Museum **www.australianmuseum.net.au**

Australian Plants Society **www.austplants-nsw.org.au**

Backyard Buddies **www.backyardbuddies.net.au**

Birds in Backyards **www.birdsinbackyards.net**

Hunter Bird Observers Club **www.hboc.org.au**

Lake Macquarie City Council **www.lakemac.com.au**

Lake Macquarie Frog and Reptile Observation Group (LMFROG)
http://artemisxe.wix.com/lmfrog-homepage#!

Lake Macquarie Landcare **www.lakemacquarielandcare.org**

Land for Wildlife **www.cen.org.au/Land-for-Wildlife**

Native Animal Trust Fund (Hunter wildlife rescue) **www.hunterwildlife.org.au**

NSW Rural Fire Service (RFS) **www.rfs.nsw.gov.au**

Society of Frogs and Reptiles (SOFAR) **http://users.hunterlink.net.au/~sofar**

Trees in Newcastle **www.treesinnewcastle.org.au**

Field guides

A Field Guide to Frogs of Australia by Marty Robinson.

A Field Guide to Insects in Australia by P. Zborowskl and R. Storey.

A Field Guide to the Mammals of Australia (2nd Ed.) by P. Menkhorst.

A Field Guide to Reptiles of New South Wales (2nd Ed.) by G. Swan, G. Shea and R. Sadlier.

Burnum Burnums Wild Things (New Ed.) by G. Sainty.

Field Guide to the Birds of Australia (8th Ed.) by Graham Pizzey.

Native Plant or Weed: Pick the Difference (Vols I and II) by Ann Loughran.

Native Plants of the Sydney Region: From Newcastle to Nowra and west to the Dividing Range (3rd Ed.) by Alan Fairley and Phillip Moore.

Plant selector table photograph acknowledgements

Plant selector table photographs courtesy of:

Photo	Photo credit
Callitris rhomboidea fruit, Cordyline stricta, Crinum pedunculatum, Eucalyptus robusta, Glochidion ferdinandi, Homalanthus populifolius, Pandorea pandorana, Prostanthera incana, Scaevola albida	© M. Fagg, Australian National Botanic Gardens
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Angophora costata	© Australian National Botanic Gardens
Melaleuca linariifolia flowers	D. Greig © Australian National Botanic Gardens
Acacia longifolia flower, Banksia integrifolia flower, Callicoma serratifolia, Cordyline stricta flower, Hibbertia scandens flower, Leptospermum laevigatum, Lomandra longifolia flower, Melaleuca linariifolia, Melaleuca thymifolia, Pandorea pandorana flower, Syzygium paniculatum fruit, Tetragonia tetragonioides, Tristaniopsis laurina flowers, Viola hederacea,	Australian Native Plant Society
Acacia suaveolens, Baumea artilculata, Dianella caerulea fruit, Eucalyptus robusta, Ficinia nodosa, Glochidion ferdinandii fruit, Grevillea Poorinda Royal Mantle flower, Kennedia rubicunda, Westringia fruiticosa flower	Graham Prichard
Banksia ericifolia, Grevillea Poorinda Royal Mantle, Ficus coronata	Flickr - Tony Rodd
Banksia robur	Flickr - Spelio
Leucopogon parviflorus	Flickr - Sunphlo
Syzygium smithii fruit	Flickr - FarOutFlora
All others	Lake Macquarie City Council

Notes