

# Gardens for wildlife

Thank you for inviting us to your garden that will soon become a great stepping stone for a number of wildlife species that live in the area. Your garden can become a beautiful wildlife retreat with just a few simple steps.

Please find below some suggestions and advice that you may wish to use to enhance your garden for wildlife.



## Visit your local bushland

We encourage you to plant more species in your garden that replicate species found in the wild places nearby. Any indigenous or native plantings you include in your garden that mirror the remnant vegetation found in your local reserve will certainly provide additional stepping stones for fauna that visit. A list of plant species can be found by following web address

<https://www.cardinia.vic.gov.au/indigenousplantguide> which might give you some inspiration for your own garden.

## Share your experience

Cardinia Shire residents are really taking to the Gardens for Wildlife program. This means that the effort you make in attracting animals, birds and insects into your garden will be supported and appreciated not only by the local wildlife but by your local human community too. Of course there are many who are yet to hear of the program so be sure to display your letterbox sticker proudly and share the benefits with your neighbours.

## Choosing indigenous plants

Exotic plants and non-local native species may grow well in your area, but can become weedy and often do not support local wildlife. Indigenous plants have adapted to the local soils and climate over time, are less likely to be attacked by pests and diseases and don't need extra water and fertilisers. Using indigenous plants in your garden will preserve the character of the local environment and increase the corridors between existing remnant bushland. Cardinia Shire has a number of indigenous plant nurseries, which can be found on the following web address

[https://www.cardinia.vic.gov.au/downloads/download/359/local\\_indigenous\\_plant\\_nurseries\\_-\\_cardinia\\_shire\\_council](https://www.cardinia.vic.gov.au/downloads/download/359/local_indigenous_plant_nurseries_-_cardinia_shire_council)

You can visit these nurseries where you will meet a great group of passionate people who will certainly help with your future plant selections.

Indigenous plants are low maintenance but they will still look healthier and grow better with regular tip pruning and liquid sea weed fertiliser.

## **Tubestock vs advanced plants**

Evidence suggests that the growth of tubestock is reliable, immediate and minimises soil disturbance; preventing the opportunity for weeds to colonise. There is a common perception with all plants that 'bigger is better' but research has shown that small plants suffer less transplant shock and rapidly establish a healthier root system (as the pot has trained the roots to grow downwards rather than circling the pot) which encourages rapid growth.

## **Plant selection and density**

Wherever possible plant multiples of the same species as they advertise the habitat more broadly (to both wildlife and people). Mass flowering of the same plants in one area at the same time is more noticeable and provides a greater incentive for wildlife to visit as well as creating a more natural look and feel to the garden.

Continue to plant in layers; grasses, groundcover, shrubs and trees, it is important as it provides greater opportunities to attract a terrific range of wildlife to your garden.

You can find more information about choosing plants for gardens in high bushfire risk areas here <https://www.cfa.vic.gov.au/plan-prepare/plant-selection-key>

## **Remove identified weeds**

It would be of great benefit to the local wildlife if you were able to strategically remove the weeds identified during your garden visit.

Environmental weeds are one of the major threats to Cardinia's natural environment. Weed invasion can change the natural plant diversity and the balance of plants growing in natural areas.

As a result, the weed may:

- Grow faster than native plants and successfully compete for available nutrients, water, space and sunlight
- Reduce natural diversity by smothering native plants or preventing them from growing back after clearing, fire or other disturbance
- Replace the native plants that animals use for shelter, food and nesting.

We can all take action to remove local weeds, here are some helpful tips:

- Get to know the local weeds in your area; how they spread, the methods of control.
- Dispose of weeds that are already seeding or readily able to reproduce vegetatively by placing them in a black plastic bag, sealing it and "baking it" in the sun until destroyed.
- Compost or dispose of other garden and green waste in council green waste collections. NEVER dump garden waste over the back fence or in bushland.

Council has annual weed grants that can assist you with the cost of weed removal. Details can be found at the web address

[https://www.cardinia.vic.gov.au/info/20021/supporting\\_our\\_community/208/apply\\_for\\_a\\_weed\\_control\\_grant](https://www.cardinia.vic.gov.au/info/20021/supporting_our_community/208/apply_for_a_weed_control_grant)

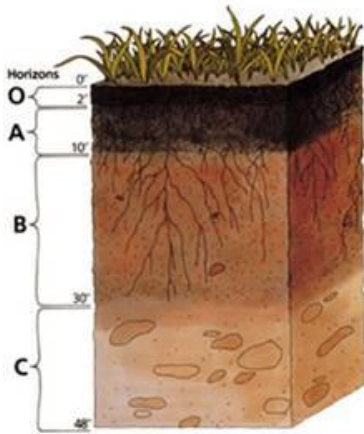
Here are some instructions for how to use your new dabber bottle to remove woody weeds

[https://www.cardinia.vic.gov.au/download/downloads/id/2683/weed\\_dabber\\_bottle\\_instructions.pdf](https://www.cardinia.vic.gov.au/download/downloads/id/2683/weed_dabber_bottle_instructions.pdf)

## Gardening from the ground up

Healthy soils are a complex web of life, teeming with insects, earthworms, beneficial fungi and bacteria. Soil should smell good, be moist and crumbly and allow plant roots to penetrate deep into the ground. If your soil doesn't match this description but instead dries out to a cement-like texture, any new plants may not thrive, could be short-lived or be susceptible to pest problems, so you need to include organic matter before planting.

**Figure 1. Soil profile**



### Key

O Horizon: Organic matter

A horizon: Topsoil

B Horizon: Subsoil

C Horizon: Regolith (unconsolidated broken rock, soil and dust that sits atop bedrock)

R Horizon: Bedrock

A layer of organic matter is the key to rebuilding good soil ecology. Organic matter is an even composition of anything that was once living: weeds, manure, hair, paper, kitchen scraps. Organic matter brings life to the soil by providing food and habitat for beneficial microorganisms. As organic matter decomposes, nutrients are made available to growing plants.

Adding a layer of mulch before planting will improve moisture retention of the soil, keeping it from overheating, prevent erosion and improve soil structure.

Mulch feeds the soil as it is broken down by micro-invertebrates such as millipedes, slaters and earthworms, creating habitat for soil dwelling predators such as ground beetles, spiders and centipedes. The increase in life underground will then provide food and habitat for small lizards and frogs and will encourage insectivorous birds to visit.

**Figure 2. (L-R) Southern Brown Tree Frog, Blue Wren, and Garden Skink are all dependant on insects in the garden**



A nice, thick layer of mulch can inhibit weeds in two ways. Firstly, by thoroughly covering the soil and depriving weed seeds of the light they need to germinate, preventing them from gaining a foothold in the first place. Secondly, bare dirt is the perfect place for weed seeds to land and germinate. By covering all of your bare soil with mulch, most weeds will never be able to come into contact with the soil.

## Life on the ground

Adding logs around the garden provides both habitat for wildlife and nutrients for the soil as they break down. Habitat for wildlife includes places for living, nesting and roosting; places to hide from predators; food and water; protection from weather; and opportunities to find mates.

**Figure 3.** *Examples of fallen branches providing habitat for wildlife*



The logs also act as mulch, conserving niches of damp soil, which allows soil invertebrates to thrive and assists plants to germinate and grow. At ground level, logs can act as mini-windbreaks, providing shelter from extreme weather for ground invertebrates.

Rocks in the garden provide niches where more water is available for plants and soil invertebrates. The cracks and hollows around rocks are important habitat for wildlife and when surrounded by plants, reptiles and amphibians will seek refuge amongst them.

Lizards and skinks bask on rocks in the sun to get warm. Common skinks love sunny rock piles that have plenty of crevices. Not only are rocks great for basking in safety, they also retain heat to keep reptiles warm during cold spells.

**Figure 4.** *(L-R) Many-Flowered Mat Rush, Flax Lilies, Long Purple Flag*

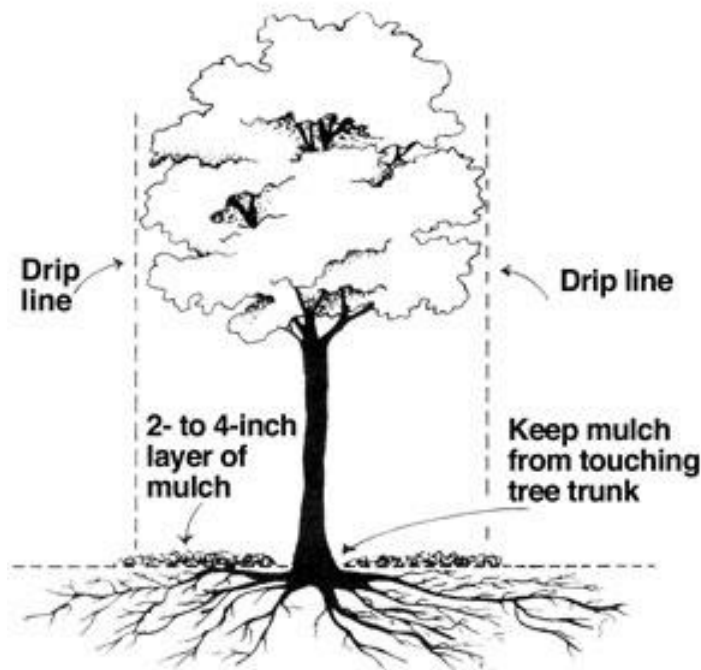


## Living with trees

A tree in the garden is a fantastic asset to your home's amenity and to your desire to garden for wildlife. Trees provide food and shelter for a wide variety of local wildlife from insects and birds to larger mammals and any hollows have great potential as breeding sites.

A natural tree hollows take between 80 and 150 years to form depending on the species and 26 per cent of Australia's native birds require hollows to nest in, as do many Australian mammals.

**Figure 5. Elements of large tree, including drip line and root system**



To protect the health and longevity of any existing trees you might like to consider applying a layer of mulch around their root system - right out to the drip line - thereby protecting their root system and limiting erosion. Then wherever possible, link up any large trees by planting amongst them, filling the spaces in between with multiple shrubs, thereby adding back habitat for small birds.

When considering planting a tree in your garden, always select species that suit the site conditions and requirements. What is the soil fertility, structure and drainage? Is the area exposed to sun, shade, wind, or water limited? Make sure that the mature heights and the root systems of your selections are suitable for where they are to be planted.

### Local tree species that you might like to include:

- Peppermint (*Eucalyptus radiata*)
- Lightwood (*Acacia implexa*)
- Blackwood (*Acacia melanoxylon*)
- Hazel Pomaderris (*Pomaderris aspera*)
- Black Sheoak (*Allocasuarina littoralis*)
- Golden Wattle (*Acacia pycnantha*)

### Trees in decline and habitat trees

There are many local animals that use some part of a dead tree in every stage of its decay for things such as a:

- **place to live** - many animals, including birds, bats and possums make nests in hollow cavities and crevices in standing deadwood.
- **food source** - by attracting insects, mosses, lichens and fungi, deadwood becomes a feeding space for wildlife.
- **"crow's nest"** - higher branches of snags serve as excellent look-outs from which wildlife such as Owls, Tawny Frogmouths and Raptors spot potential prey.
- **hiding place** - the cracks and spaces within deadwood are put to good use by possums and other wildlife looking to store food.

- **soil refresher** - mosses, lichens and fungi all grow on snags and aid in the return of vital nutrients to the soil. Decaying logs on the forest floor also act as "nurse logs" for new seedlings.

### ***Incorporating habitat trees into your garden***

A 'habitat tree' is the name for dead trees that are left upright to decompose naturally. You can create a refuge for local wildlife by keeping habitat trees in your garden.

**Figure 6. Examples of habitat trees**



### ***When should I remove a dead tree?***

Any trees that may fall on your home (or a neighbour's home) should be removed. Identify any tree that **can be retained** as a habitat tree rather than complete removal. Remove the canopy back to a level that is acceptable to reduce the target area or risk of limb failure. Retain any existing hollows if possible.

### ***What about termites?***

As long as the habitat trees are a reasonable distance from your home, it is unlikely that termites and other pests will find their way into your home.

### ***How do I create artificial hollows?***

If there are no existing dead trees in your yard, you can create artificial ones by trimming branches on live trees of varying sizes and types and carving hollows into them. Hardwood trees tend to make better nesting habitats while softer wood is better for food foraging.

### ***Benefits of planting under-storey plants***

- Creates insulating layer, protecting the soil from extremes of heat, cold and strong winds.
- Adds to the mulch layer and intercepts leaves from over-storey trees that might otherwise be blown away.
- Hosts a range of fungi on their roots that extend the nutrient and water absorbing capabilities of all plants; particularly canopy trees.
- Provides habitats for small native birds that are important to the trees - insect control and pollination.
- Provides shelter for fauna that prefer to forage within the understorey rather than in open areas.
- Softens the impact of heavy rain and drips from over-storey trees that can erode soil.
- Intercepts and slow surface runoff allowing it to penetrate the soil at a steadier rate.

## Building small bird habitat

Where space allows consider including a few prickly species along edges and fence lines, to provide good refuge for small birds to visit.

**Figure 7.** Sweet Bursaria (*Bursaria spinosa*) with (insert) Correa Brown Butterfly, (*Oreixenica correae*)



A favourite of many insect pollinators is Sweet Bursaria (*Bursaria spinosa*). Bursaria is a useful specimen plant or alternatively, a hedging plant. A row of closely planted Bursaria seedlings will produce an impenetrable formal hedge if regularly clipped, or a natural, taller and more open hedge if they are allowed to grow unchecked. Grouped together this plant provides excellent safe bird nesting sites and spider webbing location. Each Bursaria bush offers nectar or larval food source for birds, beetles, butterflies, moths, wasps, bees and ants. This in turn allows pollination, seed dispersal and nutrient cycling processes to be initiated.

Bursaria bushes also provide an intricate architecture of thorns and twiggy foliage much sought after by numerous species of spiders for constructing their webs. When the bushes are flowering, their sweet nectar attracts a myriad of insects, which are then entrapped in these three-dimensional spider snares. The spider webs too have an important role in attracting a diversity of native birds - Grey Fantails, Brown Thornbills, New Holland Honeyeaters and all Robins who depend upon the collection of spider web remnants to knit their nests together for successful nest building.

**Figure 8. (L-R) Spider web, Grey Fantail and small bird nest**



There are lots of other prickly species that you may like to consider including in the garden that provide small birds with refuge from predators in the area such as Prickly Tea Tree (*Leptospermum continentale*), Burgan (*Kunzea ericoides*) as they are perfect for providing nesting/roosting opportunities for small birds, or the Prickly Currant Bush (*Coprosma quadrifida*) that also provides fruit for small birds. Planting these just under 1m apart will ensure they will connect up, creating a screen or dense clump.

**Figure 9. (L-R) Prickly Tea Tree, Burgan, Prickly Currant Bush**



**Local shrub species that you might like to include:**

- Cinnamon Wattle (*Acacia stictophylla*)
- Prickly Moses (*Acacia verticillata*)
- Yellow Hakea (*Hakea nodosa*)
- Hazel Pomaderris (*Pomaderris aspera*)
- Hairpin Banksia (*Banksia spinulosa*)
- Hedge Wattle (*Acacia paradoxa*)



Consider adding the Common Correa (*Correa reflexa*), Common Heath (*Epacris impressa*) or Common Appleberry (*Billardiera mutabilis*) to the garden. Increasing flowering shrubs for nectar-feeding small birds is also important. The Eastern Spinebill for example has a long, fine beak perfect for extracting insects and nectar from a few very specific indigenous plant species such as these. These plants produce concealed bell-shaped flowers within the foliage that are perfect for this small bird to poke its beak into.

**Figure 10. Eastern Spinebill**



**Figure 11. (L-R) Common Correa, Common Heath, Appleberry**



In addition to food and shelter, the local birds that you have visiting your garden will require a source of water in which they can drink and bathe in. If you choose to include hanging bird baths just ensure that they are in a position that offers a quick escape from predators such as cats and foxes or larger 'aggressive' birds. Always ensure the water is fresh and clean. You should dump the water out and refill it every couple of days to get rid of spoiled food particles and droppings, which may spread bird diseases.

You are encouraged to keep your cat inside or in an enclosed cat run to reduce the destruction cats have on native wildlife. For further information about Council's cat regulations please see this link [https://www.cardinia.vic.gov.au/info/20003/pets\\_and\\_animals/305/managing\\_nuisance\\_cats#section-5-hire-a-cat-trap](https://www.cardinia.vic.gov.au/info/20003/pets_and_animals/305/managing_nuisance_cats#section-5-hire-a-cat-trap)

## Attracting frogs

It is possible to provide habitat for a wide range of frog species even on relatively small properties, since most frogs need wetlands to breed but will move into other habitats during the non-breeding season. The construction of a frog bog will help to keep the frogs in your garden and to assist in sustaining the local population.

When you have decided on the type of habitat that you wish to create, there are a few things that hold true in any frog-friendly garden. An area in the backyard that is moist or holding water would be best providing that it is partially shaded. This will help to keep some of the land areas moist year-round yet still has areas of warmer water allowing tadpoles to seek their preferred temperatures. Some sunlight is important, as this will encourage growth of algae and other plants that provide part of the tadpole diet.

## Designing a frog bog

If you decide to create a frog bog with water holding capacity, it is best to provide extensive shallow areas. These are the areas preferred by many of the semi-aquatic or bog plants. Many frog species use these areas for calling and depositing eggs. It is also best to provide heavy vegetation around at least part of any water body. These heavily planted shallows also provide refuge for tadpoles from birds and allow tadpoles to bask in the sunlight to increase their body temperature and speed their development. Steep or vertical walls should be avoided. Gentle slopes will allow a smooth gradation for small frogs to escape.

What you end up creating can be as 'formal' or as 'natural' looking as you like. The placement of plants and use of the logs and rocks will be the foundation of the design. Consider planting multiple strappy plants and small shrubs the frog habitat. These will provide frogs with comfortable resting places, hiding spots from predators and shelter from wind. Focus on the local plant varieties that also attract insects to your garden. Frogs eat a variety of insects and can act as natural insect predators.

**Figure 12.** *Examples of frog bogs*



**Table 1. Plants to consider adding to enhance this habitat type (from most to least dependant on water)**

Common name	Botanical name	Comments
Pale Rush	<i>Juncus pallidus</i>	Tufted perennial rush, to 2 m
Tall Sedge	<i>Carex appressa</i>	Large tufted sedge
Stream Sedge	<i>Carex brownii</i>	Loose turf to 1m high with triangular stems
Tassel Sedge	<i>Carex fascicularis</i>	Tufted sedge to 1m high
Knobby Club-rush	<i>Ficinia nodosa</i>	Tall, coarse, wiry densely tufted rush, flowers are brown spikelets
Pale Flax-lily	<i>Dianella</i> sp.	Large clump, strap leaves, blue flowers followed by purple berries
Button Everlasting	<i>Coronidium scorpioides</i>	Hairy perennial herb, yellow flowers
Hop Goodenia	<i>Goodenia ovata</i>	Yellow flowers, fast growing
Mat-rush	<i>Lomandra</i> sp.	Large clump, strap leaves
Tussock-grass	<i>Poa</i> sp.	Tufted grasses

## Butterfly habitat

Flax Lilies (*Dianella* sp.) can blend in and around the garden well. These send up flowering stems with multiple small blue flowers that will attract insect pollinators, then after flowering a number of small blue/purple berries are produced that the local Rosellas enjoy.

**Figure 13. Pale Flax Lily**



Hop Goodenia (*Goodenia ovata* upright or prostrate form) is also a terrific addition to any wildlife garden. These are very hardy local plants that require very little maintenance and can tolerate a light annual prune and the year-long flowering appeals to many local insects.

**Figure 14. Hop Goodenia**



To help fill any other spaces in your garden, you could incorporate additional indigenous species that can attract local butterflies. Adult butterflies mainly feed on nectar for energy, so try adding some Purple Flag (*Patersonia occidentalis*), Butterfly Flag (*Diplarrena moraea*) and/or Clustered Everlasting (*Chrysocephalum semipapposum*) which all display gorgeous colours that further attract butterflies to the garden. Clumping similar colours next to each other is particularly inviting for butterflies and increases the length of time in which they stay in your garden.

**Figure 15. (L-R) Purple Flag, Butterfly Flag, Clustered Everlasting**



To encourage visiting butterflies to stay for a longer period of time, it is important to provide them with host plants so the female butterfly can lay her eggs. The indigenous grasses and rushes that you have included already are perfect for this. The Spiny Headed Mat - Rush (*Lomandra longifolia*), Purple Sheath Tussock Grass (*Poa ensiformis*) and Wallaby Grass (*Rytidosperma* sp) all provide a valuable space for egg laying. They also provide a great source of food for caterpillars once they hatch. The best part is the caterpillars are small, shy and nocturnal and do not cause any visible chew marks to your plants!

**Figure 16.** (L\_R) *Spiny Headed Mat Rush*, *Purple Sheath Tussock Grass*, *Common Brown Butterfly* (top), *Imperial Blue Butterfly* (bottom)



You can provide additional habitat for butterflies by placing flat rocks in the sun. These rocks allow butterflies to warm up their wings in preparation for flight. They are also a popular courting space. Including a very shallow dish of water, situated amongst your butterfly attracting plants will also allow butterflies to rehydrate in the warmer months.

**Figure 17.** *Butterfly warming its wings in the sun*



Once your plants begin to establish, try adding some additional flowering species through the garden. Consider including the Alpine Grevillea (*Grevillea alpina*), the Common Everlasting (*Chrysocephalum apiculatum*), Matted Bush Pea (*Pultenaea pedunculata*) or Pink Bells (*Tetralochea ciliata*).

**Figure 18.** (L-R) *Common Everlasting*, *Matted Bush Pea*, *Pink Bells*



**Figure 19. Cut-leaf Daisies (*Brachyscome multifida*) - wonderful for attracting butterflies**



Consider including climber or creeper plants in and around your garden, try Purple Coral Pea (*Hardenbergia violacea*), Running Postman (*Kennedia prostrata*) or Austral Clematis (*Clematis aristata*). These have a colourful display in Spring and provide a good food source for insects. Group flowers of similar colours together as they are more attractive to both butterflies and the gardener.



**Figure 20. (L-R) Purple Coral Pea, Running Postman, Clematis**

Adding groundcovers to the garden can convert an empty patch into a rich tapestry of leaf shapes, textures, and colors. They can be planted under trees, accent paths and edges, help suppress weeds and stabilize soil. Planting multiples of Kidney Weed (*Dichondra repens*), Native Violet (*Viola hederacea*) or Bidgee Widgee (*Acaena novae-zelandiae*) can create wonderful spaces for ground dwelling invertebrate to live, that in turn will encourage frog and lizards to live and forage also.

**Figure 21. (L-R) Kidney Weed, Native Violet, Bidgee Widgee**



**Table 2. Additional plant suggestions - indigenous grasses and lilies**

Common name	Botanical name	Size	Comment
Wallaby Grass	<i>Danthonia racemosa</i>	0.2 X 0.3m	Tufts or tussocks
Pale Flax-lily	<i>Dianella longifolia</i>	0.8 X 0.5m	Tufted clump, blue berries
Black-anther Flax-lily	<i>Dianella revoluta</i>	0.5 X 0.5m	Good under trees
Tasman Flax-lily	<i>Dianella tasmanica</i>	1.0 X 1.2m	Vigorous, good under tree
Butterfly Flag	<i>Diplarrena moreae</i>	0.5 X 0.7m	White iris flowers
Wattle Mat-rush	<i>Lomandra filiformis</i>	0.4 X 0.3m	Arching stems, long lived
Spiny-head Mat-rush	<i>Lomandra longifolia</i>	0.7 X 0.7m	Tough, good on banks
Many-flowered Mat-rush	<i>Lomandra multiflora</i>	0.4 X 0.4m	Showy flowers in dense clusters in spring
Purple Flag	<i>Patersonia occidentalis</i>	0.3 x 0.5m	Compact tufting plant with mauve flowers
Purple-sheath Tussock-grass	<i>Poa ensiformis</i>	0.5 X 1m	Tough plant in moist shade, controls erosion
Common Tussock-grass	<i>Poa labillardieri</i>	0.5 X 0.8m	Vigorous grass in moist to slightly dry sites

These plants can be densely planted as a groundcover at a minimum density of 4m<sup>2</sup> or used in occasional clumps.

**Table 3. Additional plant suggestions – indigenous groundcovers**

Common name	Botanical Name	Size	Comment
Chocolate Lily	<i>Arthropodium strictum</i>	0.2 X 0.2 - 0.8m	Sun/part shade. Scented flowers
Cut-leaf Daisy	<i>Brachyscome multifida</i>	0.4 X 0.2 - 0.5m	Sun/part shade. Butterfly nectar
Grass Trigger-plant	<i>Stylidium graminifolium</i>	0.2 X 0.5m	Full sun. Butterfly nectar
Common Everlasting	<i>Chrysocephalum apiculatum</i>	0.3 X 1 - 2m	Full sun Butterfly nectar & caterpillar food
Common Billy-buttons	<i>Craspedia variabilis</i>	0.3 X 0.5 - 1m	Sun/part shade. Butterfly nectar
Button Everlasting	<i>Coronidium scorpioides</i>	0.3 X 0.02 - 0.3m	Sun/part shade Butterfly nectar & caterpillar food.

The next step is to get creative. Use the internet to research the botanical names to find out what these suggested plants look like and then consider the colours and textures and height and spread of each of the plants. Then plan a tapestry of the plants that most appeal to you.

Figure 22. Important elements for successful wildlife garden

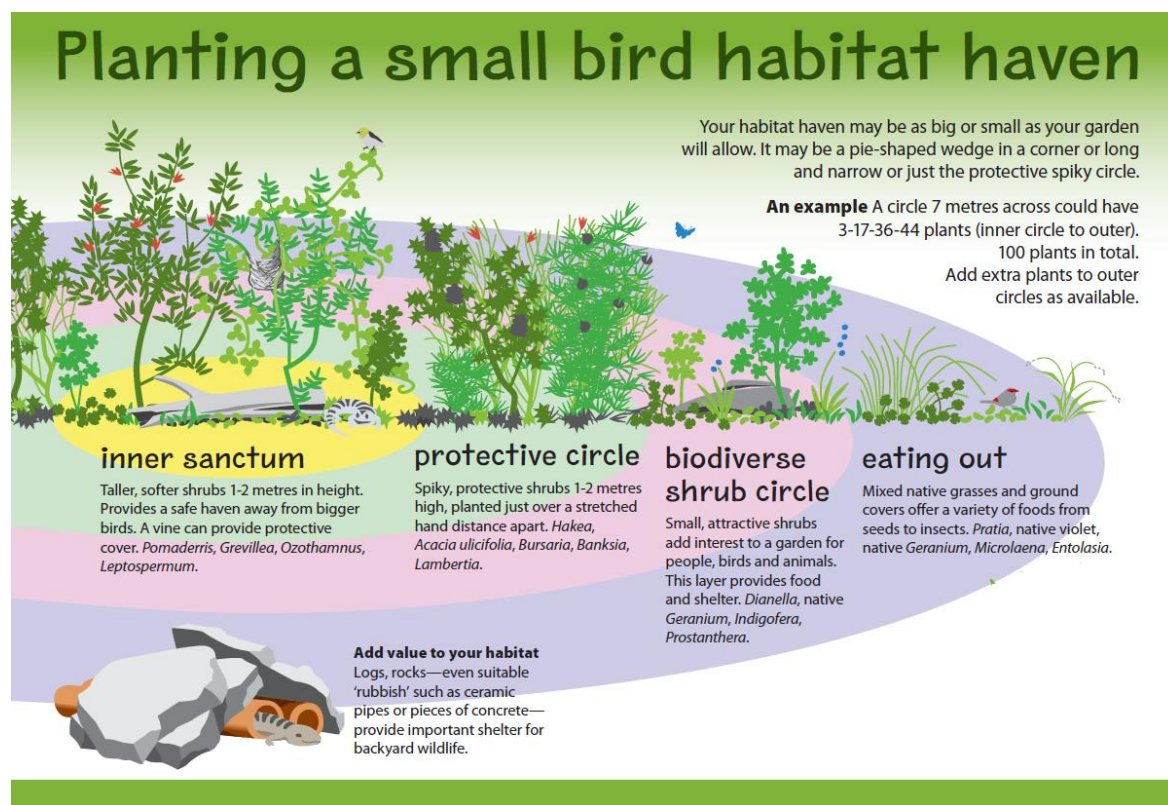


Figure 22 highlights the important elements within a wildlife garden that will encourage small birds and insects to visit. It may assist with your plans and overall design of your garden in the future.

Good luck and happy gardening!