

Your Sustainable Garden

Gardening Mindfully



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Your Sustainable Garden Casey edition

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Introduction

A sustainable garden enhances the natural environment.

Gardening is about creating a beautiful and interesting space that we can enjoy with our family and friends. It's easy to garden sustainably for the health and well-being of our family and the environment. To create a sustainable garden you need to incorporate all or at least some of the following elements.

- Plant indigenous plants that are naturally adapted to your local soil and climate. Many native birds, reptiles, frogs, mammals and insects rely on these plants for food and shelter and will be attracted to an indigenous plant garden.
- Avoid plants that are known invasive species in our bushland and wetlands. These garden escapees have the potential to smother and out-compete indigenous plants resulting in a loss of biodiversity in our nature reserves.
- Regardless of water restrictions, practise water conservation in the garden to have a positive impact on water levels in our reservoirs. Avoid using synthetic fertilisers and pesticides that can harm beneficial insects in our garden and potentially leach into our waterways resulting in nutrient blooms or an excess of aquatic weeds.
- Purchase garden products made from recycled or renewable resources. Buying recycled products reduces the amount of raw materials extracted and energy used compared to making new products.
- Grow your own fresh, delicious produce and reduce food miles!

Garden design and plant selection vary tremendously depending on individual taste and lifestyle. This booklet provides general sustainable gardening information applicable to any garden. It will provide you with local information and inspiration to create a beautiful garden that respects your local environment.

Garden design

Start small but plan BIG!

Site Analysis

If you are starting from scratch or redesigning an existing garden, one of the best things you can do is observe your garden's characteristics. Try to get a picture of your garden during all four seasons and make note of how light, shade and moisture can vary. Regardless of whether you have the patience to do this or not, the starting point with garden design is to do a site analysis of your available space. It allows you to identify the pros and cons, limitations and possibilities for your garden. It is important to work with your site. If you know a section of your garden is shady and damp, select plants that are suited to those conditions rather than trying to change the site.

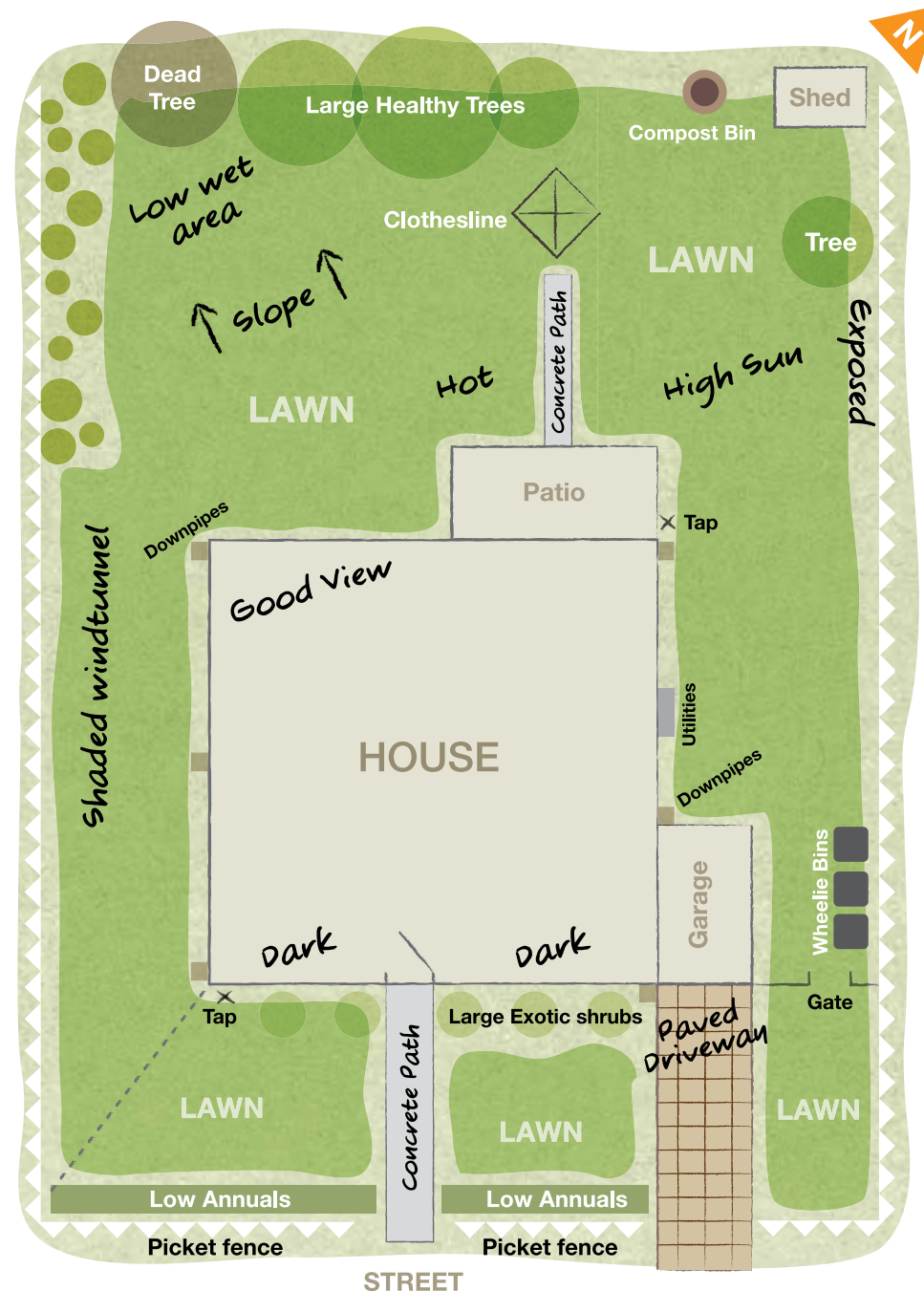
Step 1

What exists

Create a scaled drawing of your property, either on graph paper or sketch paper. Mark in the main structural and environmental features. Fences, pathways, shed, outdoor taps, clothesline, patio, rainwater tank, garden beds, major trees and lawn areas. Where are your sunny and shady areas in summer and winter?

Do you have a large paved area near the windows on the north side of your house that reflects the hot summer sun into your house? Do you have any drainage issues where the ground is often too wet or dry?

Example of Site Analysis



Step 2

What are your needs?

Create a wish list. Do you want more space for the kids? A private reading nook? A more inviting outside entertainment area? A front yard that complements the architecture of the house? A herb garden near the back door? More birds visiting? Do you need a deciduous tree or vine to provide summer shade? Do you need screening to provide more privacy? Do you want to reduce or remove your lawn? Make a note of the initial major work that would need to be done with each option e.g. garden bed edges curved out; relocate clothesline; break up concrete slab.



Step 3

Look at your plants

Remember to work with your site. If you know a section of your garden is shady and damp, select plants that are suited to those conditions. Are your plants a mix of natives (low nutrient needs) and exotics (high nutrient needs)? Are your plants layered with the smallest at the front of your garden beds rising to taller plants at the back? Have they been grouped according to their water needs? Do you have any trees that may need attention? If you have a lawn do you want to keep it or reduce it? Do you want to grow vegetables?



Step 4

What is your style?

Decide if you want a low maintenance garden or do you enjoy working in the garden regularly? Do you prefer a simple or complex garden? Open or private? Pretty and neat? Dramatic and structural? Natural looking? How do you want your garden to feel? Look through gardening magazines or your neighbourhood gardens. Make notes on what appeals to you.



Create a wish list

Herb garden

Attract birds

Space for kids

Privacy

Compost area

Summer shade

Indigenous plants

Vegie beds

Step 5

The research

Create a list of the plants you need to create the style of garden you desire. What sort of cost are you looking at? Remember you can save money if you buy plants as young tubestock. List down any major structures you want. Can you do it yourself, or will you need a professional builder or plumber? Make an estimate of the cost of materials such as pavers, rainwater tanks, raised vegie beds. Can you afford to install and maintain your garden or do you need to look at alternatives or a staged approach?

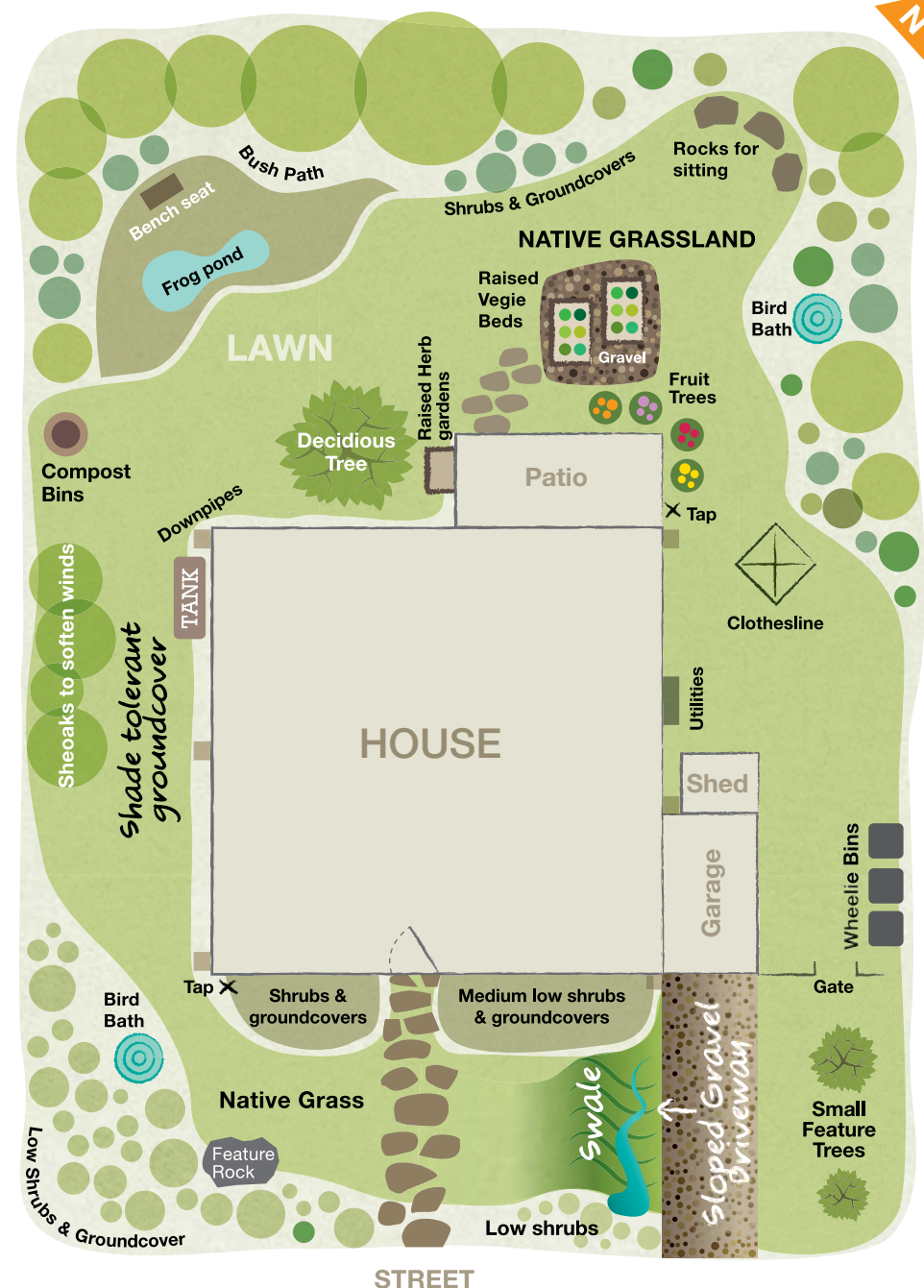


Step 6

Develop a plan

Once you have decided on what you want and what you can realistically achieve and afford, you can play with your garden plan exploring different options. Tracing paper overlay can work well at this stage. Decide what needs to be done first i.e. the big jobs such as reworking your garden bed edges or breaking up a slab of concrete. Focus on one area at a time so you are not overwhelmed. Remember it doesn't all have to be done immediately but rather according to a well thought out garden plan.

Example of a Garden Plan



Gardening in small spaces

If you have an enclosed courtyard area, balcony or a small space, you can still have a vibrant garden, grow your own produce and attract wildlife. However, you need to take into account the following issues when developing a plan.

- Courtyards, balconies and small spaces often have limited access to sunlight. If this is the case, select shade tolerant plants or use pots that can be moved about easily. If you have a south facing area you will need shade tolerant plants. North facing areas will require sun tolerant plants. Most plant labels will indicate the sun/shade preference of a plant.
- Courtyards tend to be paved and enclosed and that can create quite hot conditions. While plants will help to cool the area, make sure you include an efficient watering system as their water requirements may be high.
- Poor drainage and flooding can be problematic with courtyards that are mainly paved surfaces and if you are watering on a balcony, you many need to be cautious of water cascading down onto your neighbours when you are watering. To help with these issues, use container pots with saucers and don't overwater. However, also keep in mind, potted plants can dry out quickly, consider self-watering pots.
- When your space for a garden is limited, you can create an illusion of a larger space by using mirrors and layering plants. Think about using your vertical spaces by espaliering trees on a wall, tiered shelving, hanging baskets or window boxes.
- The use of pots and containers are effective for growing when it comes to courtyard gardens, small space gardens and balconies. Containers look great when they are grouped together, with pots of all different shapes and sizes closely clustered. Be careful not to put too many large pots on your balcony, they will get heavier when you water them!



Produce

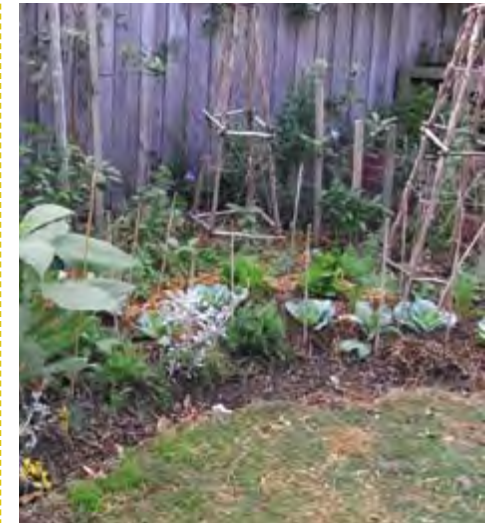
Many gardeners want to incorporate growing their own delicious produce in their garden. Growing your own food is a great way to get fresh air and exercise, while providing fresh and healthy food for your family. It also helps reduce food packaging, transportation and chemical use.

From a design point of view you need to think about what you would like to grow in your garden. Do you want fruit trees? Do you have the space for raised vegie beds, or would you prefer to combine productive plants in your ornamental beds? Do you just want pots of herbs close to the kitchen?

In general, you have four options as to where you can grow your own fruit and vegetables at home. You can add to your ornamental garden beds, grow in containers, build dedicated vegie beds or, join a local community garden.

Location of produce beds is important. Vegetables generally need a minimum of 5 to 6 hours sunlight a day. Grow your produce in a nice, sunny spot and they will thrive.

If you have limited space an option for you may be to join a local community garden. They are a great place to meet new people and share knowledge and experience.



Garden maintenance

*Good gardening practices
save you time and money.*

Soil

Clearing of native grasslands and forests has disrupted the natural nutrient cycle of our soils. This is why it is important to add organic matter back into the soil regardless of soil type. Organic matter will improve soil structure and nutrient levels, which encourages micro-organisms and worms to aerate the soil. This allows water to percolate down into the soil to be available for your plants, helping them to thrive.

Soils are broadly classified by the size of the particles they contain and whether they are sand, loam or clay (and variations of these e.g. sandy loam). To work out your garden soil type, simply take a handful of slightly moist soil and squeeze it. If it forms a smooth ball, it's a clay soil. If it does not hold form and simply falls apart, it's a sandy soil. If it roughly holds together, but falls apart readily when squeezed, it's a loam soil.

Clay soil consists of very fine particles that stick together. They tend to hold water and nutrients well. The downside of clay soils is that they can hold water a little too well, creating poor drainage. Also, when they dry out they can become hard, making it difficult for water to penetrate. The solution is to make them more friable by adding a dusting of gypsum and organic matter such as aged animal manure, mulch and compost.

Sandy soils consist of large particles that allow water to drain freely. This can mean plants dry out quickly and nutrients are leached away. A potential problem with sandy soils is that once

they have dried out they can become water repellent and water will bead on the surface rather than soaking in. To improve a sandy soil, regularly apply organic matter and mulch.

Loam soils fall in between sand and clay and are a mixture of fine and coarse particles. Loam soils drain well and have a good nutrient base for gardening. Add organic matter and mulch to replenish nutrients taken up by your plants.

In relation to your soil type you need to take into account that the topsoil and underlying sub-soil you plant into may be completely different i.e. a loam topsoil sitting on a clay base. Regardless of the type, adding organic matter (including aged manure, compost and mulch) can be of benefit in improving the quality.



Soil tips

- Don't dig up your soil unless it is very compacted. Digging destroys the soil structure resulting in collapsed air holes and drainage spaces.
- Use drip line irrigation or a trigger hose with a spray setting.
- Spreading compost on your soil (before mulching) will encourage worms in your garden and will improve the soil structure.
- Plants grow best when the soil is within a certain pH range that they have evolved to grow in. Existing soil nutrients can be made more available by regulating the soil pH. Invest in a pH testing kit from your local garden centre and routinely test your garden soil at various locations. Neutral soil has pH levels

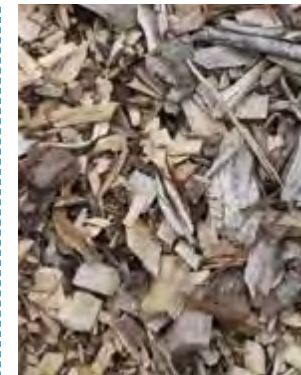
between 6.5 to 7.5 and is suitable for vegetables, seedlings and most plants. If the pH is low, (pH between 4 and 6), your soil is acidic; it can be neutralised with an application of lime. If the pH is high, (pH 7.5 to 8.5), your soil is alkaline; it can be lowered by adding sulphur. However, altering pH takes time, so don't expect immediate results. Alternatively, instead of neutralising your soil, you can also find specific plants that suit the different pH levels. For example, Thyme, Rosemary, Fig, Lavender, Agave and Acacias all grow well in alkaline soil. Indigenous plants, Blueberries, Camellias and Azaleas grow well in acidic soil.

Mulch

Mulch is an important component of a garden because it helps to smother weeds and hold water in the organic matter and soil. As some mulch layers break down, they also add nutrients to the soil. Very fine mulches are to be avoided as they can compact and not allow water to penetrate the soil beneath. Their fineness also means they are capable of holding a lot of water, once again preventing it from infiltrating the soil beneath. Good organic mulch is one that is a mix of fine and coarse particles. Avoid using grass clipping as a mulch as they tend to increase weed levels in your garden. Better to compost them or spread them lightly over your lawn.

There are different types of mulch that should be used with different gardens.

- Straw-based mulches are ideal for sandy soils, vegetable gardens and fruit trees. They break down quickly returning nutrients to the soil.
- Bark/Bush mulch is useful for weed suppression. Bark mulch is longer lasting than straw-based mulches.
- Stone/pebble mulch is suitable in areas of high traffic or succulent plant beds. Make sure your stones are sourced sustainably (refer page 36).



- Bush mulch is not just ideal for native habitat garden, but all types of gardens. When spread on your garden it will create a natural leaf litter look and provide habitat for insects and lizards to shelter and feed. It will break down with time to improve the quality of the soil.
- Many habitat gardeners mulch quite deep to a depth of 10-15 cm to encourage invertebrate life.
- Use pine bark and needles if you have alkaline soil or plants that are acid loving.



Erect Guinea-flower

How to mulch

1. Remove weeds from your soil.
2. Moisten the soil thoroughly. Ensure the water is penetrating the soil. If the water is running off the soil, fork through some compost to aid water retention.
3. Spread your mulch to a depth of 3-10 cm.
4. Keep the area directly around each plant mulch-free, as contact can occasionally lead to disease such as collar-rot.
5. Top up as your mulch breaks down. Generally twice a year for fine mulches and once every couple of years for coarse mulches.



Bush mulched garden bed

Fertiliser

Plants such as vegetables have high nutrient requirements and may require supplementary feeding. Most other plants do not (provided they have the right soil pH, water, mulch and light). If your plants are showing signs of a nutrient deficiency, you may wish to consider a fertiliser. When feeding plants with supplementary fertilisers, follow instructions carefully, and do not overdo it, otherwise you may kill your plants with kindness!

Choose an organic liquid fertiliser such as worm tea, seaweed solution or fish emulsions. You can also make your own organic fertiliser by soaking aged animal manure, comfrey leaves or garden weeds in a bucket of water for a couple of weeks. Strain and use the liquid to make up a fertiliser tea. Be sure to dilute with water to a 'weak tea' colour to avoid over-fertilising.

Avoid synthetic fertilisers, these often have synthetic nitrogen and heavy metals, and the salt content can burn young plants and change the soil pH.

Only apply as much fertiliser as your plants need. Over-application is an added cost and can result in excess fertiliser washing out of the soil and into our waterways. Excess nutrients can contribute to blue-green algae outbreaks that are harmful to the environment. Remember, that you are feeding the soil not the plants, add organic matter and let nature do the work!

Indigenous plants generally do not require fertilising as they have evolved to suit our nutrient poor soils.

The best way to fertilise your garden is to make your own compost.

Organic waste and composting

When organic (food and garden) waste rots in landfill anaerobically (without oxygen), gases are produced as a by-product. Landfill gas is approximately 40% carbon dioxide, 55% methane and 5% nitrogen and other gases.

Methane is a greenhouse gas that has 21 times more warming potential than the equivalent amount of carbon dioxide. When organic waste breaks down in your compost bin aerobically (with oxygen), methane gas production is minimised. If you compost your organic waste at home rather than send it to

landfill, you help reduce pollution. And your soil will love you!

Composting food scraps, lawn and garden clippings can provide your garden with an excellent source of food. Compost does not have to be dug into the soil. The micro-organisms and worms will do that for you.

ADD TO YOUR COMPOST

- Fruit and vegie scraps
- Coffee grounds
- Tea bags
- Herbs
- Leaves
- Egg shells – crushed
- Pizza containers
- Egg cartons
- Vacuum cleaner dust
- Onion – outer skin
- Finely chopped citrus peel
- Grass clippings – thin layers 3 to 4cm
- Chopped prunings
- Weeds – not bulbs or seed heads
- Shredded newspapers
- Fresh manure
- Spoilt hay

KEEP OUT OF YOUR COMPOST

- Meat and fish scraps – they can attract vermin
- Dairy – again they attract vermin
- Office paper – bleached or glossy
- Weed seeds and bulbs – you will only spread them around your garden
- Bird, dog and cat poo – can be a health risk
- Large tree branches – unless you've put them through a chipper
- Citrus fruit – too acidic in large quantities, okay in small quantities
- Diseased plants – spreads disease

Kitchen fermentation kits

Specially designed bench kits are a convenient way to break down kitchen waste. These kits are a fermentation system that converts waste to a nutrient rich soil conditioner for your garden. The system is air tight and requires you to sprinkle a handful of the manufacturer's rice husk and wheat bran that has been infused with micro-organisms over a layer of kitchen waste to rapidly break down food scraps. The fermented product is then dug into the soil where it continues to break down.



Compost bins

Compost bins are a compact closed system. They work best if located in a sunny position during winter and a shaded position during summer. Place them on soil so that liquid drains well and worms can enter the bin to aid composting. Add alternate layers of high nitrogen ingredients (e.g. food scraps, manure, grass clippings, soft prunings) to low nitrogen ingredients (e.g. dry leaves, straw, garden waste, shredded newspaper). Keep moist but not too wet. Cover with a layer of hessian to retain heat and moisture. The compost should be ready in as little as 16 weeks when full.



Compost heaps

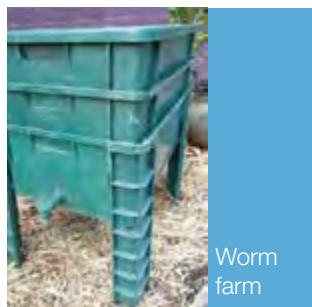
This is an open system that requires more space. The system needs to be a minimum of 1m³ in order to generate enough heat to work. This can be on soil or on a hard surface. Alternate your organic materials between high nitrogen (e.g. garden cuttings, kitchen waste, lawn clippings and aged animal manures) and low nitrogen (e.g. dry leaves, straw, shredded newspaper) with each layer being 10-20cm deep. As you build, spray each layer so that the materials are moist but not saturated. Cover your finished heap with hessian and secure. Try to turn your heap as often as possible. A full heap should generate enough heat to obtain compost in 5-7 weeks.



Worm farms

Worm farms are a great option if you have limited space and predominantly want to dispose of food scraps. So if you live in a flat or a house with a small backyard, worm farms are ideal. Worms produce rich, inexpensive garden fertiliser, called worm castings and liquid worm tea.

Worm farms can be purchased from garden centres and hardware stores, and come with instructions and bedding material. There are specific worms that eat kitchen scraps only and these are different from the earthworms you encounter in the garden. Examples of composting worms are Tiger Worms, Red Wigglers and Indian Blues. These can be purchased by the box and you should start with a minimum of 1,000 worms.



Worm farm

Food

When you introduce worms to your worm farm they may take a few weeks to start eating and slowly build up their appetite. Add fruit and vegetable scraps, cut up as small as possible. Avoid meat, bread, onions and citrus. If you are adding more food than the worms can eat, your worm farm may become smelly as the food is rotting. Be sure to monitor and adjust the amount of food you are giving your worms.

Moisture

In order to breathe, worms need to keep their skin moist and cool. Keep a few moist layers of newspaper or hessian over the top of your worms before placing the lid on your worm farm.

Do not flood your worms and take care not to leave your worm farm uncovered if it rains. A sign of a worm farm being too wet is a large number of small vinegar

flies. Likewise if you find drowned worms at the bottom of your worm farm your system is too wet. Add some shredded newspaper to absorb the excess moisture.

Temperature

Worms stop eating if they are too cold and will die if they are too hot. They perform best at temperatures 18 - 24°C so it is important to keep your worms in a shady place out of direct sunlight in summer.

Using your worm castings and tea

Worm castings will not burn your plants and can be mixed directly into the soil before adding seedlings. Use as much as you like! Worm tea on the other hand is a strong nutrient boost for your plants and needs to be diluted at a ratio of 1 part tea to 10 parts water before you water the base of your plants.

Green cone

The Green Cone is an in-ground system where your food waste constantly breaks down and releases nutrient-rich liquid into the soil. Once the system has been set up in the ground it remains in that location until the scraps have broken down. Simply fill a kitchen container with food waste and empty directly

into the Green Cone. It is low maintenance as the internal warmth, soil bacteria and worms do the job for you. Green Cones should be located next to heavy feeders in a sunny position with good drainage. It is ideal if you have limited need for garden compost. It is not suitable for garden waste.



Gardening with chickens

Chickens will eat most kitchen scraps and can be a great addition to your home composting! Not only beneficial to your composting, they will also be helpful at the end of growing seasons if you have a garden bed or vegie patch that needs turning over. They will scratch around, pulling out plants, and provide the soil with a high nitrogen fertiliser (chicken manure). Their manure can also be added to your compost pile. They can be helpful

in pest control as they love feeding on common garden insects. However, if chickens are on the hunt for insects, the seedlings may not survive digging and scratching, so keep this in mind before letting them have free rein. Temporary fencing or a well thought out enclosure leaves you the perfect garden companions with the bonus of fresh eggs! For local laws around keeping poultry visit www.casey.vic.gov.au



For more information contact Council on 9705 5200 or see the Casey Composting Guide www.casey.vic.gov.au/composting

Watering

Australia is a dry continent and our gardens have suffered through some very extreme dry periods. Climate change modelling suggests we can expect more extreme weather conditions in the future.

Approximately 35% of household water use is for the garden. Soil improvement and mulching help save water. If you don't already, you should consider using alternative water sources, rather than mains (tap) water for your garden. In your garden, significant water savings can be made by:

- installing rainwater tanks
- fitting greywater diverters
- using Class A recycled water (if available)
- building raingardens
- directing surface water onto the garden
- installing efficient irrigation systems
- planting water efficient plants.



Raingarden

Most indigenous plants (unless they are wetland plants) are suited to dry conditions. They generally do not need additional watering once they are established. Monitor them during heat waves and give them a deep soaking if they show signs of wilting.

Alternative water sources

Rainwater

Collecting rainwater from your roof can be an easy way to reduce mains water use for your garden. The ideal tank size depends on the size of your garden, roof catchment and local rainfall patterns.

The size of rainwater tanks for a garden usually ranges from 2,000 to 10,000 litres. Tanks need to be installed by a licensed plumber on a firm base at least 1m from the property boundary. A pump may be needed to move water around your garden. The cost of rainwater tanks depend on size, shape and materials.

Recycled water

Recycled water is one of the alternative water supplies available to us. Recycled water is treated and purified wastewater (sewage). In Victoria, Class A is the highest class of recycled water and is safe to use for a range of non-drinking purposes including irrigation of your garden.

Water corporations and water retailers treat and supply Class A recycled water through purple pipes to residential areas in Victoria. Check if recycled water is available in your area by contacting your water retailer.

Greywater

Greywater is domestic wastewater, excluding toilet waste. This can be an excellent alternative source of temporary water for the garden. Greywater contains a number of bacteria and viruses, as well as chemicals from cleaning agents so remember to take care when using it. If greywater is to be applied to the garden, low phosphorous and sodium washing powders need to be used. Greywater from your washing machine rinse cycle and bathroom hand basin, shower and bath can be used. Greywater can only be stored for 24 hours, must be applied sub-surface and cannot flow from your property or enter the stormwater system.

Greywater cannot be used to water vegetables and produce, other than fruit trees. When applying it to your garden, rotate the areas where it is being applied and 'flush' the soil periodically with mains or tank water to prevent a build up in the soil.



Raingardens

A raingarden is a gravel filled trench designed to receive stormwater directly from a disconnected downpipe or runoff from surrounding hard surfaces. Water entering a raingarden passively irrigates the garden and is slowed and filtered, helping to protect our waterways.

Raingardens consist of layers of soil for filtration, gravel for drainage, and plants that can tolerate both extreme wet and dry conditions. There are many different types of raingardens, from planter boxes to trenches.

How a raingarden works

1. Rain and stormwater wash pollution into raingarden
2. Water spreads throughout raingarden where plants use up nutrients
3. Water seeps down through layers of raingarden trapping sediments and pollutants
4. Filtered stormwater is collected in pipes and flows to local waterways.

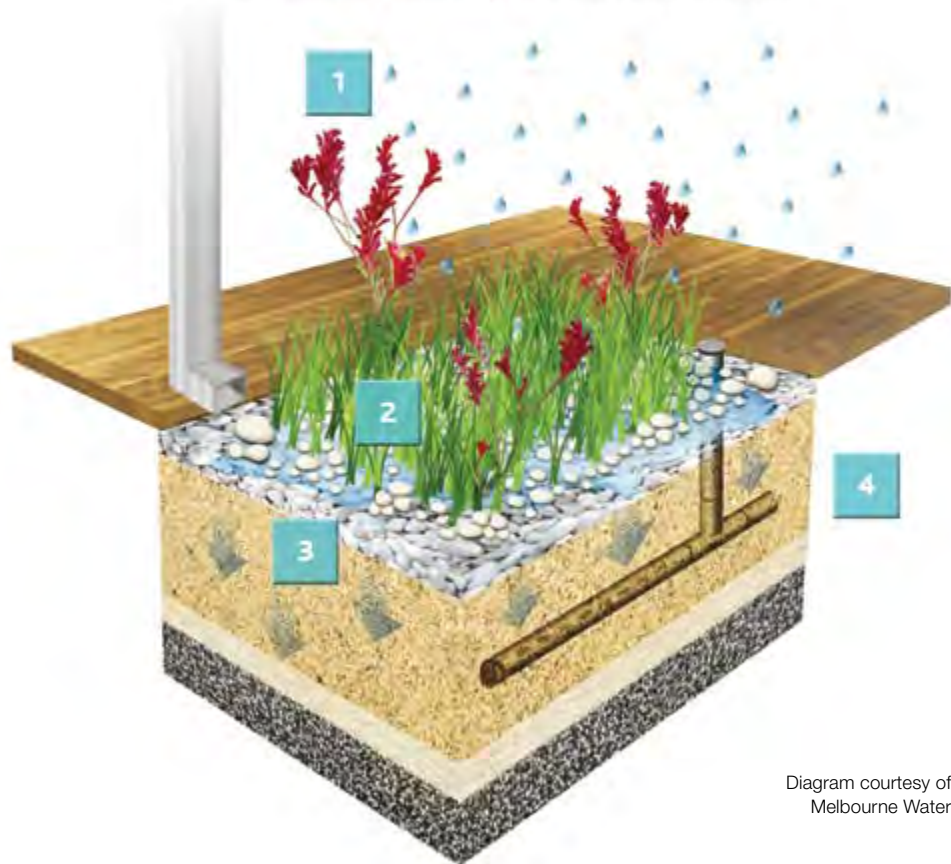
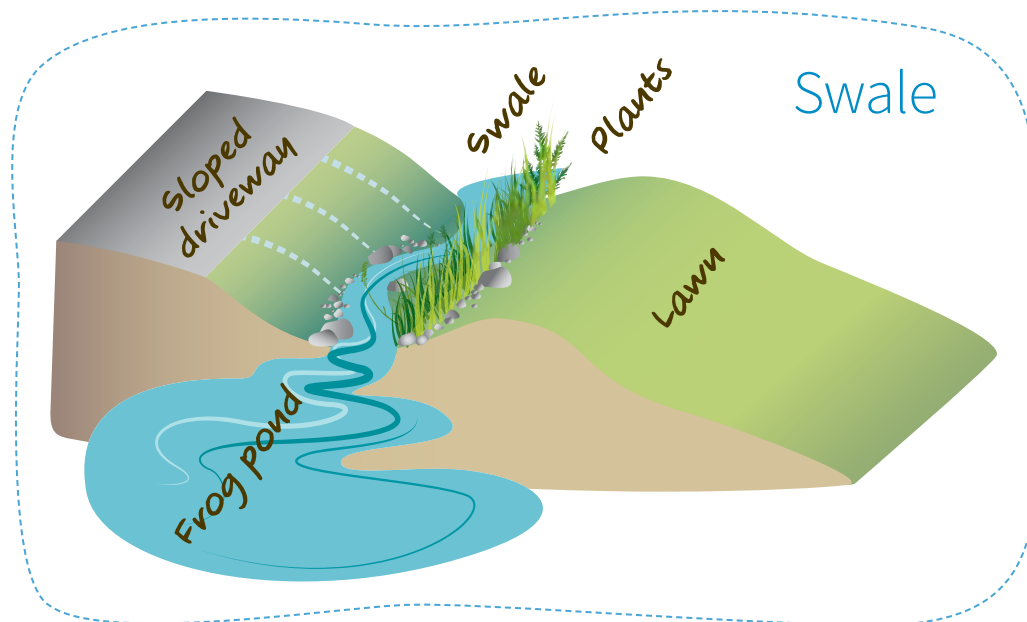


Diagram courtesy of
Melbourne Water

Downpipe diversion

By diverting one or more downpipes around your property you can direct stormwater onto your garden beds or lawn, utilising a valuable resource and allowing that water to slow and filter before seeping back into the groundwater table. A downpipe diversion can easily be fitted to your downpipe by a licensed plumber.



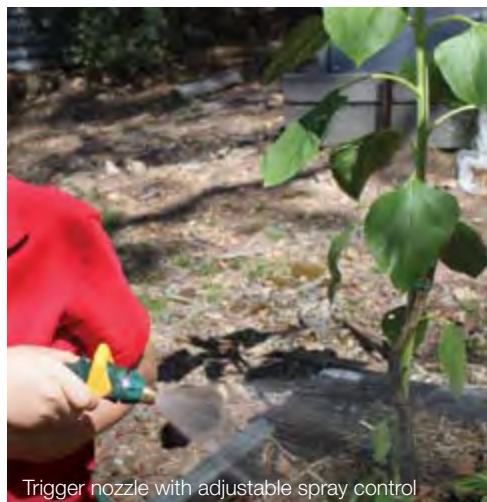
Landscaping improvements for passive irrigation of your garden

Stormwater can be directed onto your garden beds for passive irrigation by gently sloping the surface of driveways and patios. This stormwater runoff from hard surfaces can be collected in a swale, which is essentially a shallow, mounded ditch laid across a contour with a shallow gradient directing run-off towards your garden or a small wetland.

If you are laying pavers, consider creating a space between that will enable water to percolate into the soil. There are also commercial concrete grids and modular recycled plastic blocks for paving available. Granitic and sand paths require more maintenance than concrete but will allow water to seep into the ground.

Irrigation practices for saving water

How water is delivered to your plants is very important. Use a drip line watering system which reduces waste by ensuring that the water only goes to the roots of your plants where it is needed. Check and clean your irrigation system every spring to ensure it is working efficiently. Install garden tap timers to reduce over-watering and monitor. Use a rain sensor so that watering doesn't occur automatically and ensure the system is turned off if rain is predicted. Water in the early morning so your plants are not distressed through the heat of the day, this may also work to reduce the impact of fungal diseases and moulds. Give your plants long, deep watering and make sure they are grouped according to their water needs. Use a trigger nozzle hose when watering for extra savings!



Trigger nozzle with adjustable spray control



Tap timer



Porous paving



Dripline irrigation

For information on current permanent water use rules and rebates contact your water retailer.

Planting

The most important first step is to ensure you have the right plant for the right spot. Make sure you know the conditions where you are planting (e.g. full sun, sandy soil) and then find a plant that will thrive in those conditions.

Buy from a reputable nursery to ensure the foliage and roots are well formed and free from pests and diseases.

You can plant into your garden with seeds, cuttings or potted plants of various ages. In general, buying younger

stock in tubes (tubestock) is better as the roots are less likely to girdle and the plant establishes more readily. Tubestock is also a cheaper option than most potted plants.

Staking

A plant will grow with greater strength if it is not tied to a stake. When a plant is blown around by the wind the plant responds by developing a stronger root system. Plants only need to be staked if they are in danger of toppling over. If staking is required, ensure that the ties allow for some movement - three stakes in a triangle formation work best for advanced plants. Add a tree guard if pests or active pets are a likely problem. Remove the tree guard once the plant has become established.

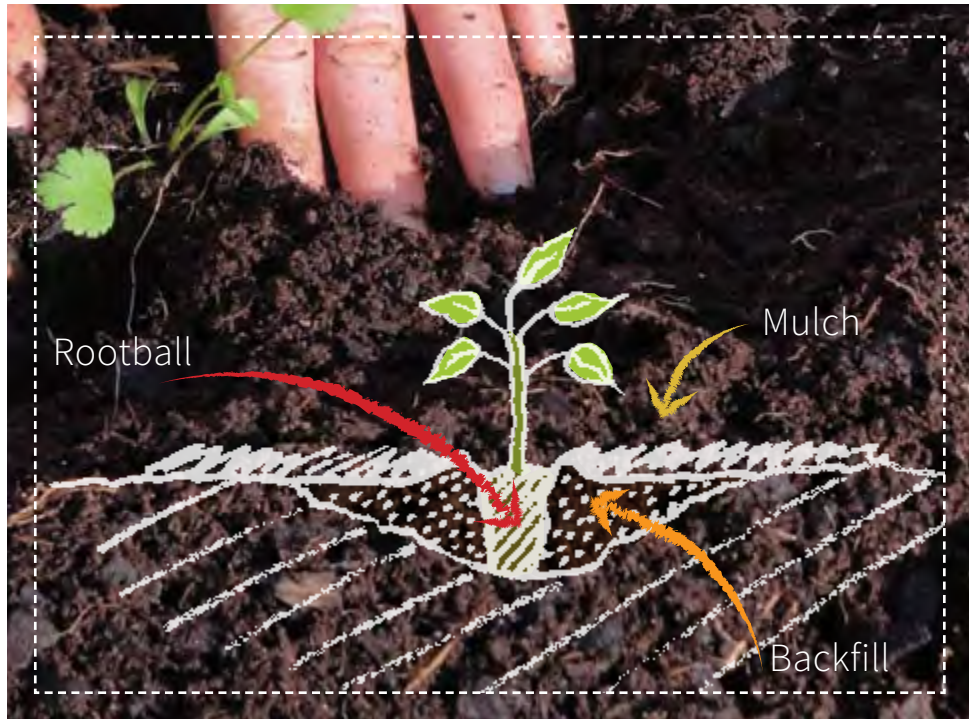
Planting indigenous plants after the first rainfall in autumn generally works best.



Tree guard

Planting out

1. Give your potted plant a good soak in a bucket of water prior to planting.
2. Dig a sloping, shallow hole 2 to 3 times the width of the root ball and as deep.
3. Fill the hole with water and allow it to drain before planting.
4. Upend your pot. Any roots protruding through the bottom can be pruned before removing from the pot. Remove the plant from the pot by holding it upside down and gently tap it.
5. Place the plant in the hole so that the top of the root ball is flush with the surface level.
6. Backfill loose soil around the plant, ensuring no weed material and press down firmly.
7. Fashion a circle of raised soil around the edge of the root ball to form a watering basin.
8. Water thoroughly to settle the soil around the plant.
9. Mulch up to the edge of the root ball. Do not mulch up to the stem as this may cause collar rot.



Pruning

Giving your plants a light prune after flowering encourages them to invest energy into new and healthy growth rather than seed production.

Pruning prevents plants from getting leggy and untidy. Some plants may have more specific pruning requirements than others. Avoid plants that require frequent pruning as they will be high maintenance and will result in the generation of excessive green waste.

Many habitat gardeners want the natural look and do not bother with pruning, other than the odd trim of plants growing over a path. Some indigenous plants respond well to heavy pruning, while others can suffer from a light trim. It is always best to check with nursery staff or a landscaper about individual species.

However, as a general rule of thumb most trees, bushes and shrubby plants (such as Correas and Hibbertias) can be trimmed lightly during their early growing years. Many can be gently shaped into hedges or attractive feature plants. It's best to prune lightly after flowering. Small daisies such as Chryscephalum and Xerochrysum species respond well to a heavy pruning after flowering. Grasses such as Poas, Weeping Grass and Wallaby Grass respond well to a heavy prune (50%) shortly after seeding... after all, that's what the kangaroos and wallabies do in the wild!



Pruned Rock Correas

Pruning also prevents plants from getting leggy and untidy.

Trees

There are an estimated 250,000 trees growing in Council streets and reserves and an equivalent amount on private land across the municipality. Casey is committed to the preservation and expansion of its urban forests, which includes the City's streets, reserves and trees on private land.

Trees at home

Trees provide shade, homes for wildlife, reduce the impact of sun and wind, and clean the soil, air and water. They soften the built environment and add economic value to properties. Trees provide flowers, seasonal change, scent, colour, texture and food. On a broader level trees supply so much that we take for granted in our daily lives such as shelter, timber, fuel, paper and oxygen.

When choosing a tree for your home garden there are a few things to consider first:

- how high and wide will it grow? Ensure your tree is not planted too close to buildings or under powerlines
- is the soil in good condition?
- will you be able to prune the tree as it grows?
- how much water will this tree need?
- is it deciduous (lose leaves over winter)?
- do you want a deciduous tree to shade your house in summer? If so, plant on the north and/or west of your house
- do I want to attract wildlife?

- does it flower or fruit?
- will it impact the neighbours?

Remember to 'Dial before you Dig' to make sure the area is clear of underground services to your home.

Do you need an arborist?

Arborists are professionals who can help with tree pruning, pest and disease management and if required, tree removal. They are trained and equipped to work at height without causing unnecessary damage to your garden or home. If your tree needs pruning or removal you should ensure they are suitably qualified and insured. Also contact Council to see if you need a planning permit to prune or remove a tree as you may be covered by planning overlays that protect vegetation and fines can apply for their unlawful removal or pruning.



Storm damage

Council staff will remove damaged trees and debris from public areas on a priority basis after a storm. It is important to note the following:

- privately owned trees, affecting private property, are the residents' responsibility – the SES should be contacted if it is an emergency
- Council will clear roads or footpaths blocked by private trees in an emergency, but the removal of debris is the residents' responsibility

- trees which are entangled in power lines will be cleared by the relevant power company
- debris from a Council tree which is on the ground but not causing immediate problems, or trees fallen in parks, have a lower priority and this information should be reported to Council
- the middle of a storm event is not the time for an inspection of an otherwise healthy tree.

Street trees

Council maintains appropriate tree management standards and contractors prune Casey's street trees on a three year cycle.

Residents can request Council undertake tree planting within their street. Council officers will advise on the appropriateness and priority for the request. They will then designate suitable tree species based on any relevant site masterplan or existing street tree theme or according to the opportunities and constraints presented within a site. All enquiries regarding street trees should be directed to City of Casey Customer Service on 9705 5200.



Garden Health

Prevention is better than the cure!

Garden hygiene

There are some simple practices you can undertake to ensure your garden is as healthy as possible.

- Buy your seeds and plants from a reputable supplier, otherwise you may inadvertently bring diseased plants into your garden.
- Space plants out to ensure good ventilation to prevent disease. Make sure your pruning tools are sharp to avoid tearing stems and branches, which could make the plant susceptible to disease attack.
- Prune back any dead or damaged parts of your plants as soon as you notice a problem.
- Use a rag soaked with eucalyptus oil to wipe down your secateurs blades between moving on to each plant.
- If you are treating a plant for a disease, make sure you collect any fallen leaves and put them in either your hot compost heap or green waste bin (not your regular compost bin).
- Pick up any fallen fruit. Don't leave it to rot as it can attract pests and disease.

Garden pests

Chewing, sap-sucking and rasping pests are part and parcel of gardening. We can often tolerate a minor infestation, but need to take action if the pest is damaging our plants. It is important to correctly identify the pest, its consequences, the severity of the problem, the possibility of natural predators keeping the pest under control, and control techniques you can put in place. Actions that will help minimise pest problems include:

- check your garden regularly for signs of infestations
- avoid using high nitrogen fertilisers that produce soft, sappy growth that attracts pests
- ensure your plants are strong and healthy. Stressed plants are more prone to infestation
- attract predatory animals to your garden. Not only do birds, bats, frogs and lizards eat insects, but so do ladybirds, praying mantis, lacewings, spiders, hover fly and dragonflies. These 'good guys' are attracted to plants such as Alyssum, Marigolds, Cosmos, Parsley, Coriander and Dill
- remove pests by hand (e.g. caterpillars and snails) or spray with a jet of water (e.g. aphids)
- spray with botanical oils or natural soaps. Home remedies can often be very effective (e.g. linseed oil traps for earwigs).



Ladybird eating aphids

APHIDS

Aphids are sap sucking insects that affect the growing tips of plants resulting in distorted leaves, flowers and fruit, and possibly yellowing and wilting.

Control:

- Squash aphids by hand.
- Hose off with a water jet
- Spray with a homemade garlic and oil spray
- Use a botanical soap
- Encourage predatory insects and birds.

CABBAGE WHITE BUTTERFLY CATERPILLAR

Caterpillars hide on leaf veins during the day and feast on seedlings by night. Typically caterpillars will completely strip seedlings of all their leaves.

Control :

- Plant scented herbs e.g. mint
- Plant white violas or egg shells amongst seedlings to mimic adult butterflies and act as a deterrent
- Remove by hand
- Cover bed with wildlife-friendly netting.

CITRUS GALL WASP

The adult female wasp emerges from the gall (calluses) in late winter and lays her eggs in the soft stem of the same tree. The larvae grow in the stems until they pupate and reinfest the tree.

Control:

- Avoid high nitrogen fertilisers in late winter and spring
- Remove all newly formed galls before the end of winter
- Hang yellow sticky traps on infected trees in late winter
- Burn or bag all infected stems.

EUROPEAN EARWIGS

Earwigs are active at night and hide in mulch during the day. They cause damage to the growing tips of plants and strip seedlings to bare stalks. Trapping earwigs is the most effective control.

Control:

- Fill upturned pots with scrunched newspaper and empty each morning
- Place shallow container of fish or linseed oil in garden beds
- Put rolled up newspapers in garden beds and empty daily.

MITES

Mites are tiny spiders. Empty egg casings on the underside of leaves are easier to spot than the mites. Webbing appears on the tips of plants and silvering on the leaves.

Control:

- Hose with water jet
- Remove infected leaves and plant parts
- Use crop rotation
- Clean up weeds and leaf litter around the plant base
- Spray with botanical oils and soaps.

SCALES

Sap-sucking scale lives beneath its own casing that appears on leaves and stems. They feed on young plant tissue.

Control:

- Remove with a soft toothbrush or by flicking off
- Spray with botanical oils or soaps
- Cut off heavily infested plant parts and destroy
- Encourage predatory insects and small birds to your garden.

SNAILS AND SLUGS

These molluscs are active at night and hide in moist, shady places during the day. They eat entire leaves and seedlings. Large leaves have holes in them or are shredded.

Control:

- Hand removal
- Spray plants regularly with black coffee
- Sprinkle used coffee grinds around seedlings
- Place snail traps with beer or soapy water at soil level
- Create barriers around plants with an exclusion band of copper tape
- Encourage predatory insects and small birds to your garden.

WHITE FLY

Sap-sucking insects that swarm about when disturbed. Produce silvering on leaves, potentially leading to leaf curl and wilting.

Control:

- Hang yellow sticky traps near infected plants
- Use botanical oils
- Encouraging predatory wasps.

Product selection

The products we choose to buy for our garden can have an impact on the health of our ecosystems.

Sustainable products

Buying furniture, pots, timber and pebbles for the garden can impact on environmental sustainability.

With some thought we can support more environmentally sound practices through the products we choose for our gardens.

- Consider reusing or purchasing second hand pavers, timber and bricks.
- Use recycled material for fill, such as crushed bricks and concrete.
- If you cannot source recycled second hand timber use Forest Stewardship Council (FSC) certified plantation timbers rather than other timbers.
- Consider posts, sleepers and decking made from recycled plastic.
- Choose timber sleepers treated with non-arsenic-based chemicals.
- Consider solar pumps and lights.
- Local gas-fired ceramic pots have a lower environmental impact than those fired using wood or coal and transported from overseas.
- Reuse old pots or containers.



Timbers to avoid (rare or threatened species)

Merbau (also called Kwila)

Burmese Teak

Ramin

Meranti

African Mahogany (including Sapele)

Better alternatives (managed plantations)

FSC Plantation Eucalyptus

Bamboo

FSC New Guinea Teak

Rubberwood

FSC Tuan

For more information visit: www.goodwoodguide.org.au

Grow your own

From a simple container to extensive garden beds, you can grow seasonal fresh fruit, herbs and vegetables that taste delicious and are more nutritious.

Vegetables

Grow the vegetables you like to eat. There are generally two main planting seasons, autumn and spring.

Popular autumn seedlings include peas, kale, Asian greens, Brussel sprouts, carrots, broccoli, cauliflower, cabbage, spinach, and onions. The makings of delicious winter soups!

Produce for planting in spring includes capsicum, chilli, eggplants, summer beans, carrots, cucumber, lettuce, beetroot, sweet corn, tomatoes and zucchini. Summer salads galore!

Seed collecting

Collecting your own seeds from your best producing vegies can be an easy and cost effective way to grow future crops. Vegies such as tomato, pumpkin, pea, bean, lettuce, kale, radish and watermelon are great plants to start with.

Soil

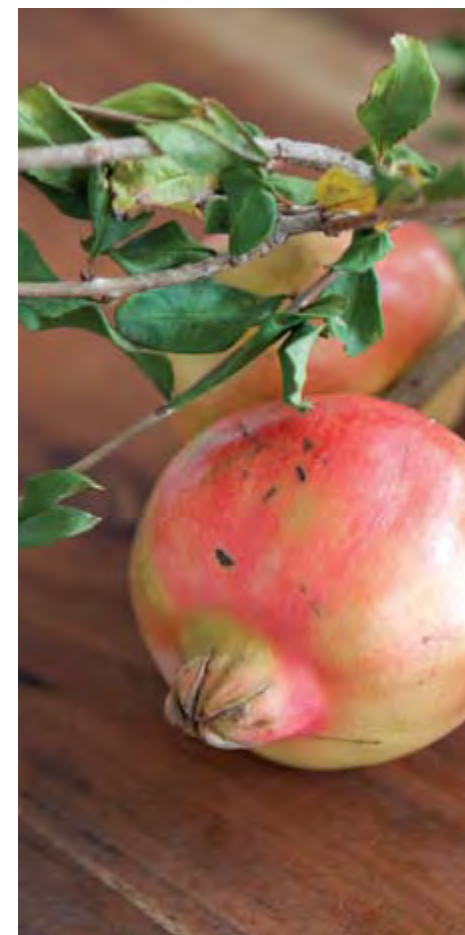
The most important part of growing your own food is to look after your soil. Organic matter, i.e. compost, animal manures or green manure crops, is an essential component regardless of whether you have sandy or clay soil. Organic matter, along with the bugs and worms accompanying it, will create healthy, active soil that will do most of the work for you in terms of nutrient supply to plants and control of pest and diseases. For further information refer to page 13.

Mulch

Mulching your vegetables is an important part of success. Apply straw-based mulches when day time temperatures regularly exceed 25 degrees in spring and, to ensure adequate soil temperatures for your plants growth, remove mulch in autumn when temperatures are regularly below 25 degrees. For further information refer to page 15.

Pests and diseases

Pest and diseases will, from time to time, be a problem when growing your own food. A small amount of damage is inevitable when grown organically. Having a balance of the good and bad guys in your garden is far better than having to worry about control options. Most insect pests can be controlled by using simple organic control techniques. Refer to pages 32-35 for more information.



Crop rotation

When vegetables from the same plant family are planted in the same place year after year, they may gradually strip the soil of nutrients needed by that crop. Pest and diseases can also build up in the soil. Check to see which family group your favourite vegetables come from and rotate annually.



Family	Type	Nutrients
Alliaceae	Onion, garlic, shallot, chive and leek	Light Feeder
Amaranthaceae	Spinach, chard and silverbeet	Heavy Feeder
Apiaceae	Carrot, coriander, parsley, parsnip, dill and caraway	Light Feeder
Asteraceae	Lettuce and artichoke	Heavy Feeder
Brassicaceae	Asian greens, cabbage, broccoli, Brussel sprout, cauliflower, turnip, mustard and radish	Heavy Feeder
Chenopodiaceae	Beetroot	Light Feeder
Cucurbitaceae	Pumpkin, zucchini, cucumber and melon	Heavy Feeder
Fabaceae	Pea and bean (legumes)	Nitrogen Producer
Poaceae	Sweetcorn and maize	Heavy Feeder
Solanaceae	Tomato, capsicum, chilli, potato, and eggplant	Heavy Feeder

Heavy feeders require a lot of nutrients, and will deplete the soil of nutrients to produce a crop.

Light feeders are mainly root vegetables that need little or no fertiliser in good garden soil.

Nitrogen producers are legumes (pea and bean) that put nitrogen back into the soil.

Herbs

A huge range of herbs can be grown with minimal effort. Both annual and perennial herbs are generally suited to neutral soils. Grow the herbs you use most often. Planting herbs amongst vegies can also provide pest deterrent benefits e.g. pairing tomato with basil. Some herbs, like Thyme, provide an attractive aroma when brushed past on paths or entrances, providing an added bonus to their culinary uses.



Fruit trees

Most fruiting plants, both trees and canes, will thrive in neutral soils; but some, like blueberries will require specific pH conditions. Check with your plant supplier prior to purchase to ensure success. Others like lemon trees, may require annual treatments of micro nutrients, e.g. magnesium to keep them producing at their best for many years.



Excess produce

After successfully growing your own food, you may find you have a surplus. It's a great problem to face. You can either swap with other like-minded growers near you, or start down an addictive path of preserving the produce to be enjoyed well beyond the growing season. The options are limitless. You may wish to pickle, jam, freeze or store in a pantry depending on the type of produce; for example, some varieties of pumpkins can be stored in a cool dark place for more than 12 months.



Planting for wildlife

The removal and fragmentation of habitat and the impact of feral animals and invasive plants has had a substantial impact on our biodiversity. Before development, your local area had a very rich and diverse range of native plants and animals. Each species played a specific and integral role in maintaining a balanced natural ecosystem.

Unfortunately under the pressure of urbanisation our forests and grasslands have been cleared, natural wetlands drained and our waterways stressed by pollution and erratic flows. Climate change now poses new threats with lower rainfall and a predicted increase in heatwaves. Many species have disappeared or exist in isolated pockets of land at risk of becoming locally extinct. We can all make a difference by creating habitat gardens: beautiful gardens that attract and nurture our native fauna and/or become a Friends Group member of your local reserve!

The **Growing a Green Web** Program

Funded and administrated by the City of Casey, the program aims to link corridors of indigenous vegetation to form a 'green' network across the municipality – an area of 395 km². The program involves all levels of the community in the rehabilitation of indigenous vegetation, and Casey schools and community groups have planted over 300,000 plants so far! Local community participation is integral to the success of the Growing a Green Web program and provides

great scope for extending the 'green web' into the numerous rivers, creeks, drainage basins, roadsides and recreation reserves within the City of Casey. Activities from previous years have included seed collection, revegetation, weed control, plant propagation and environmental training days and plant giveaways. To find out more on the program, contact the City of Casey Customer Service on 9705 5200.

What and how to plant?

While not essential, a garden of indigenous plants is best as this vegetation was traditionally used by the animals in the area and is suited to the conditions of the site. A key to creating a habitat garden is to create structural diversity – lots of plants and lots of different layers. Aim to create a mix of

trees, shrubs of varying height, grasses and groundcovers. Habitat gardens do not have to look messy! Indigenous plants can be pruned to create neat gardens. Pruning also encourages a much denser growth pattern, which provides good protection for small birds.



Attracting birds to your garden

Australia has a rich and diverse range of bird species found nowhere else in the world. According to the Australian Wildlife Conservancy 15% of Australian bird species are threatened with extinction. City of Casey is home to over 150 species of birds, including migratory species from across the globe. Gardens can provide a safe haven for native birds to thrive. Many bird species will prey on garden pests such as aphids, caterpillars and scale, contributing to non-chemical pest control in the garden. To create a bird attracting garden consider the following points.

Shelter

Birds need shelter from predators such as cats and Noisy Miners. By providing prickly or dense plants at various levels in your garden you can create a safe haven for them to retreat to and safely locate their nesting sites. Dense shrubs that provide good shelter include Prickly Currant-bush (*Coprosma quadrifida*), Hedge Wattle (*Acacia paradoxa*), Prickly Moses (*Acacia verticillata*), Spreading Wattle (*Acacia genistifolia*), Rock Correa (*Correa glabra*) and Hop Goodenia (*Goodenia*

ovata). Some birds, such as parrots and owls, like to nest in tree hollows. Hollows form in mature trees. Providing a nest box in your garden is a good substitute for a hollow. Nest boxes come in a range of shapes and sizes to suit the needs of different birds.

Water

A reliable water source, particularly in summer, will attract birds to your garden. A birdbath on a pedestal next to a dense or prickly shrub will help birds feel secure.



Plants to attract **small birds**



Superb Fairy-wren

Eastern Yellow Robin

Small birds, such as the Red-browed Finch, Eastern Yellow Robin, Spotted Pardolote, White-browed Scrubwren, Brown Thornbill, Grey Fantail and Superb Fairy-wren, forage in the lower levels of the garden. They feed on insects, caterpillars and spiders and eat berries and seeds. The following indigenous plants will attract small birds to your garden:

Common Tussock-grass
(*Poa labillardieri*)

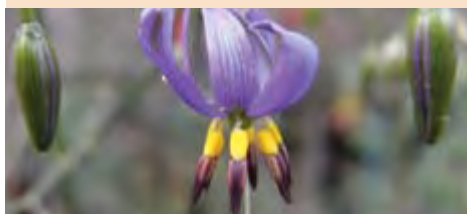
Kangaroo Grass
(*Themeda triandra*)

Wallaby Grass
(*Rytidosperma* spp.)

Rough Spear-grass
(*Austostipa scabra*)

Saltbush
(*Atriplex* spp.)

Black-anther Flax-lily
(*Dianella admixta*)



Black-anther Flax-lily

Plants to attract **honeyeaters**



New Holland Honeyeater

Eastern Spinebill

Honeyeaters such as the White-eared Honeyeater, Eastern Spinebill, Red Wattlebird and New Holland Honeyeater are attracted to the flowers of plants that produce lots of nectar. They also include insects and spiders in their diet. The following indigenous plants will attract honeyeaters to your garden:

Common Correa
(*Correa reflexa*)

Rock Correa
(*Correa glabra*)

Mountain Grevillea
(*Grevillea alpina*)

River Bottlebrush
(*Callistemon sieberi*)

Silver Banksia
(*Banksia marginata*)



Common Correa

Plants to attract **parrots**



Musk Lorikeet

King Parrot

Parrots feed on a variety of food sources. Some such as Crimson Rosellas, Rainbow Lorikeets, King Parrots and Musk Lorikeets feed on the flowers and seed of Eucalypts, She-oaks and Bottlebrush. Red-rumped Parrots feed mainly on the ground, eating indigenous grass seed. Long-billed Corellas dig for ground tubers and Yellow-tailed Black-Cockatoos love to find grubs hiding under tree bark. The following indigenous plants will attract parrots to your garden:

Blackwood (*Acacia melanoxylon*)

Black She-oak (*Allocasuarina littoralis*)

Lightwood (*Acacia implexa*)

Gums (including River Red, Swamp, Yellow, Manna, Coastal Manna)
(*Eucalyptus* spp.)

Teatree (*Leptospermum* spp.)

River Bottlebrush (*Callistemon sieberi*)

Black-anther Flax-lily
(*Dianella admixta*)

Pale Flax-lily
(*Dianella laevis* var. *laevis*)

Common Tussock-grass
(*Poa labillardieri*)

Plants to attract **large birds**



Kookaburra

Tawny Frogmouth

Birds such as Tawny Frogmouths, Owls, Magpies, Kookaburras and Butcherbirds feed on small mammals, lizards and large insects. Having large trees in your garden will provide roosting spots for the birds to rest and hunt from. The following will attract large birds to your garden:

Gums (including River Red, Swamp, Yellow, Manna, Coastal Manna)
(*Eucalyptus* spp.)



Indian Myna

Avoid feeding birds. Generally they do not need supplementary feeding. Seed trays tend to attract the more aggressive birds and introduced pest birds such as the Indian Myna love nothing more than an easy feed from a pet food bowl. Feed pets indoors or where birds cannot access their foodbowls.

Attracting invertebrates to your garden

Native invertebrates such as butterflies, moths, wasps, bees, ladybirds, ants, gnats, beetles, stick insects, spiders, dragonflies, damselflies, crickets, lacewings (to mention but a few) benefit the environment in many ways. They are some of our plant pollinators, our waste recyclers, our pest eaters and an important source of food for many native birds, reptiles and mammals. Our dislike of snails, slugs and caterpillars shouldn't blind us to the habitat benefits of these amazingly diverse creatures in our garden.

Plants to attract **invertebrates**



To encourage invertebrates into your garden leave a few logs around, plant trees with shredding bark, mulch well, put out a dish of damp sand and a flat rock for butterflies, create a small wetland with overhanging plants and consider planting some of the following plants.

Golden Wattle (<i>Acacia pycnantha</i>)	Button Everlasting (<i>Coronidium scorpioides</i>)	Tufted Bluebell (<i>Wahlenbergia communis</i>)
Sweet Bursaria (<i>Bursaria spinosa</i>)	Clustered Everlasting (<i>Chrysocephalum semipapposum</i>)	Spiny-headed Mat-rush (<i>Lomandra longifolia</i>)
River Bottlebrush (<i>Callistemon sieberi</i>)	Cut-leaf Daisy (<i>Brachyscome multifida</i>)	Common Tussock-grass (<i>Poa labillardieri</i>)
Burgan (<i>Kunzea ericoides</i>)	Common Rice-flower (<i>Pimelea humilis</i>)	Kangaroo Grass (<i>Themeda triandra</i>)
Austral Indigo (<i>Indigofera australis</i>)	Austral Stork's-bill (<i>Pelargonium australe</i>)	
Grey Parrot-pea (<i>Dillwynia cinerascens</i>)	Yam Daisy (<i>Microseris aff. lanceolata</i>)	
Bush-pea (<i>Pultenea</i> spp.)	Common Apple-berry (<i>Billardiera scandens</i>)	
Hop Goodenia (<i>Goodenia ovata</i>)		

Ladybird

Attracting mammals to your garden

Casey is home to a diverse range of mammals. If you are lucky you may come across a Southern Brown Bandicoot, Echidna, Wombat or Koala in your garden. More likely the mammals you will encounter are the Ringtail Possum, Brushtail Possum, Microbats and Grey-headed Flying-fox. While some gardeners despair when their roses and vegetable crops become the food source of possums, we do have to remember that urbanisation has replaced their natural habitat and they have adapted extremely well to our suburban properties that offer an abundance of food and excellent nesting sites. Providing trees with hollows or species specific nesting boxes, will encourage Possums, Gliders and Microbats to nest away from your roof, especially if you close up any entry points.

Plants to attract **mammals**

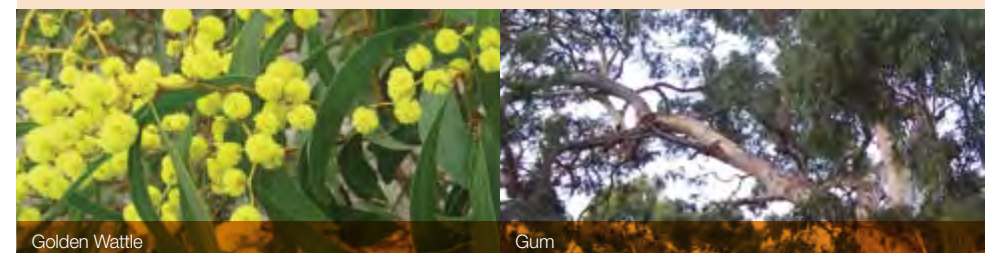


Silver Wattle (<i>Acacia dealbata</i>)	Bushy Needlewood (<i>Hakea decurrens</i>)
Black Wattle (<i>Acacia mearnsii</i>)	Burgan (<i>Kunzea ericoides</i>)
Gums (<i>Eucalyptus</i> spp.)	Coast Banksia (<i>Banksia integrifolia</i>)

Pet animals

Research by the Australian Wildlife Conservancy estimates that the average cat will kill from 5-30 native animals per day. Across the nation that results in a staggering 75 million native animals killed daily! Secure your cats

and dogs, especially at night so they don't prey on native animals. Work with your neighbours to encourage them to also secure their pets either indoors or in enclosures. Collar bells on cats have limited success.



Golden Wattle

Gum

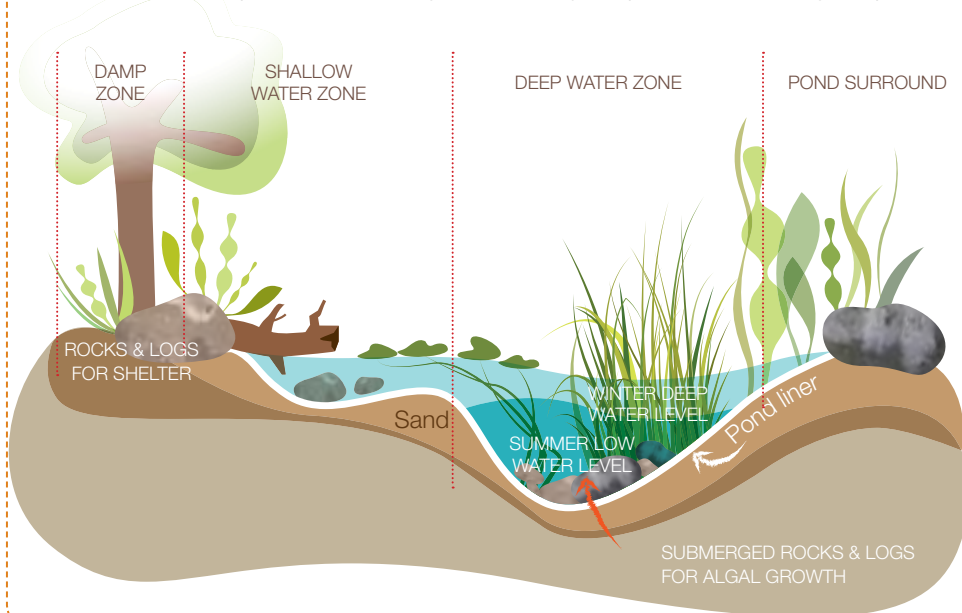
Frogs

Frog populations have undergone serious declines in recent decades with Eastern Australia identified as a global hotspot of frog decline. Nine species have been listed as extinct in the past 20 years. Not only are frogs vulnerable to the issues of habitat loss and animal predation, they are also susceptible to disease, pollution, pesticides and climate change. Casey is home to 12 species of frogs that you can support by installing a frog pond in your garden, especially if you live near a wetland or waterway. It is illegal to collect frogs, tadpoles or their eggs from the natural environment. You need to create a permanent frog-friendly garden and hope they move in.

Building a frog pond

Locate your pond in a low-lying section of the garden that has 60-70% shade. Shade from shrubs and small trees is preferable to large overhanging trees, which may drop too many leaves and cause excessive nutrient loading in your pond. You can buy ready-made ponds or dig your own and line it with heavy-duty pond lining. An important factor is to ensure your pond has varying depth that includes a ramped shallow entry

point and a deeper section to place potted aquatic plants. Maximum depth should be between 20 and 30cm. Side shelves allow for additional variation and a wider range of plants. Add rocks and logs to create climbing spots. Cover the bottom of your pond with washed gravel. Allow your pond to fill with rainwater or tap water. Remember frogs are very susceptible to chemicals. Once your pond is full, add your plants.



Plants to attract frogs



Spotted Marsh Frog



Striped Marsh Frog

Damp zone:

Marsh Club-sedge
(*Bolboschoenus medianus*)

Water Plantain
(*Alisma plantago-aquatica*)

Swamp Stonecrop
(*Crassula helmsii*)

Shallow water zone:

Common Spike-rush
(*Eleocharis acuta*)

Common Sedge
(*Carex tereticaulis*)

Tassel Sedge
(*Carex fascicularis*)

Deep water zone:

Water Millfoil
(*Myriophyllum crispatum*)

Nardoo
(*Marsilea drummondii*)

Running Marsh-flower
(*Villarsia reniformis*)

White Purslane
(*Neopaxia australasica*)

Pond surround:

Spiny-headed Mat-rush
(*Lomandra longifolia*)

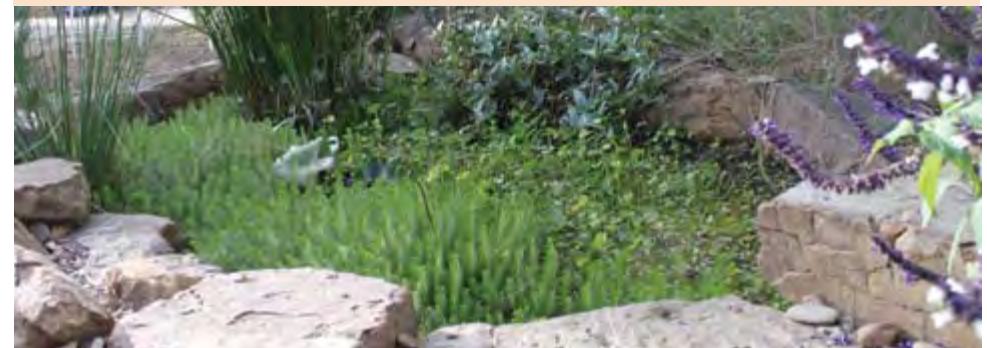
Loose-flower Rush
(*Juncus pauciflorus*)

Black-anther Flax-lily
(*Dianella admixta*)

Essentials

A pump should not be necessary. Tadpoles and eggs tend to be fatalities to pumps and as long as you do not have an excess of leaf litter falling into your pond that will result in a smothering layer of algal growth, you should be fine. Avoid floating aquatic

plants such as Azolla and Duckweed as they can quickly cover the surface of your pond reducing light and oxygen levels. Do not introduce fish into your frog pond as they will snack on tadpoles.



Attracting lizards and skinks to your garden

Small reptiles such as lizards and skinks have declined steadily from suburban gardens because of lack of suitable habitat, dog and cat attack, lawn mower encounters and from eating snails poisoned by snail bait (even pet-friendly ones).

To encourage lizards and skinks into your garden provide some flat rocks, logs or brick paving in a sunny spot to warm up, lots of leaf litter and mulch where they can hunt for insects and tussock grasses for protection.

Plants to attract lizards and skinks



Blue Tongue Lizard



Garden Skink

Common Tussock-grass
(*Poa labillardieri*)

Kangaroo Grass
(*Themeda triandra*)

Black-anther Flax-lily
(*Dianella admixta*)

Spiny-headed Mat-rush
(*Lomandra longifolia*)

Nodding Saltbush
(*Einadia nutans*)

Berry Saltbush
(*Einadia hastate*)

Snakes

Snakes perform a vital role in the environment as one of our few native predators. From time to time they may appear in a suburban garden looking for a meal. Snakes are shy and will generally avoid a busy residential garden. You can make your garden less appealing by ensuring you avoid having stacks of timber and tin lying around or long grass. If you do discover

a snake in your garden **do not try to handle it yourself**. Most bites occur when people try to kill a snake. Not only is this dangerous, but it is illegal to kill a snake in Victoria. Instead contact your Council to obtain the details of a professional snake handler who will relocate the snake to a safe place for a fee.



Kangaroo Grass



Spiny-headed Mat-rush



Black-anther Flax-lily

Living with wildlife

As long as we have been gardening, birds, possums and bats have been helping themselves whenever possible. While most gardeners are happy to share some of their produce, our wildlife is more inclined to feast on our roses and vegies, leaving little behind.

There are a number of products available on the market to try to address this problem.

Chemical repellents:

Whether they be homemade chilli/garlic sprays or commercial pest repellents, many of them have limited results. It seems possums develop a fondness for chilli over time, and a study by Deakin University revealed most possums adapt very quickly to commercial sprays. For further information, contact the Victorian government environment department.

Scare devices:

High audio scare devices, roost inhibitors, plastic owls, scarecrows, rubber snakes, CDs, plastic bags, whirligigs...there are a lot of devices out there that work to varying degrees. The most important thing is to move them about regularly to avoid the wildlife getting used to them.

Fruit protection bags:

These are available commercially or you can make your own with orange mesh bags. Use the bags to cover individual fruit and secure firmly to the tree branch. Remove after fruiting when they are no longer required.



Brush-tail Possum

Fencing:

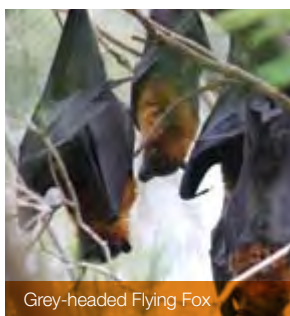
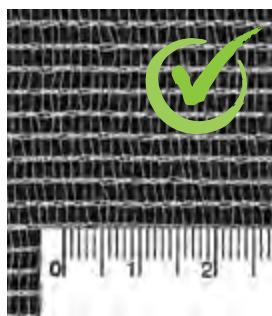
You can enclose your garden beds in a fence of floppy chicken wire with the top curved outwards. The wire roll should be about 90cm high with the bottom 20cm buried. String high tensile fencing wire between your posts and attach the chicken wire loose enough so that if an animal attempts to climb it the wire will sway. For smaller areas you can build a portable wire frame to cover your plants.

Netting:

If you use netting you should buy densely woven nets. Loosely woven netting may trap birds, bats, reptiles and mammals often resulting in their death. As a rough guide, if you can insert your finger through the netting it is capable of trapping wildlife. Choose netting with a mesh size less than 1cm². Ensure your netting is securely fixed to the ground or tied around the base of your tree above ground level. Remove nets when they are not required, e.g. after fruiting.

If you find an injured animal, call your local vet or Wildlife Victoria on 1300 094 535.

If you use netting choose a densely woven net with a mesh size less than 1cm².



Grey-headed Flying Fox



Indigenous Plants

Plants that are native to a specific area are known as indigenous plants.

Indigenous plants

Indigenous plants have been here since before European settlement and are therefore adapted to the soils, topography and climate of the local area. They tend to grow quickly, often flowering within the first season of being planted and have greater resistance to disease. Indigenous plants look great in any garden, providing spectacular displays of colour and texture throughout the year.

The following plants are a sample of the diverse range of indigenous plants within Casey. Visit the indigenous nurseries listed on the inside back cover for a wider range and expert advice on

how to grow and maintain your plants. For more information, visit www.casey.vic.gov.au, search for 'indigenous plants' and view the City of Casey's Indigenous Plant Guide.



Austral Indigo (*Indigofera australis*)

20 Common Indigenous Plants

GROUNDCOVERS & WILDFLOWERS	Austral Stork's-bill	(<i>Pelargonium australe</i>)	<ul style="list-style-type: none">• Sprawling plant with aromatic leaves, grows well in full sun.• Prefers well-drained soils.• White or pink flowers in spring-summer.• Attracts insects and butterflies.• May die back in summer.
	Clustered Everlasting	(<i>Chrysocephalum semipapposum</i>)	<ul style="list-style-type: none">• Hardy, spreading herb grows well in full sun.• Prefers well-drained soils.• Clustered gold flowers in spring-summer.• Butterflies attracted to nectar.• Prune in winter to rejuvenate.
	Cut-leaf Daisy	(<i>Brachyscome multifida</i>)	<ul style="list-style-type: none">• Low, spreading mound grows in full sun.• Prefers well-drained soils.• Purple, white or pink flowers most of the year.• Provides nectar for butterflies.• Prune in winter to rejuvenate.
	Kidney Plant	(<i>Dichondra repens</i>)	<ul style="list-style-type: none">• Creeping mat plant for shady areas.• Prefers moist, well-drained soil and semi-shade.• An excellent lawn substitute in low traffic areas.• Attracts frogs and lizards.
	Pink-bells	(<i>Tetradlea ciliata</i>)	<ul style="list-style-type: none">• Attractive container or rock garden plant.• Erect, spreading shrub.• Prefers well-drained soil kept watered in summer.• Part-shade to shade.• Withstands alkaline soils.

20 Common Indigenous Plants

GROUNDCOVERS & WILDFLOWERS

Purple Coral Pea

(*Hardenbergia violacea*)



- Trailing or climbing plant grows well in full sun.
- Prefers dry, well-drained soils.
- Showy purple flowers in spring.
- Food plant for insects and birds.

Running Postman

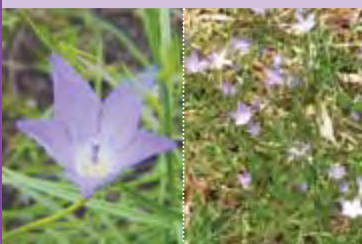
(*Kennedia prostrata*)



- Trailing plant grows well in full sun or semi-shade.
- Prefers dry, well-drained soils.
- Scarlet pea flowers in spring.
- Food plant for insects and birds.

Tufted Bluebell

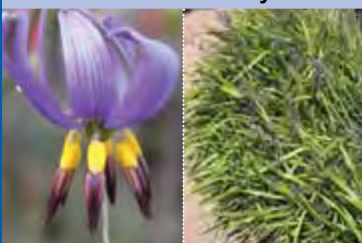
(*Wahlenbergia communis*)



- Perennial branching herb grows in full sun.
- Prefers well-drained soils.
- Flowers in spring-summer.
- Attracts insects and insect-eating birds.

Black-anther Flax-lily

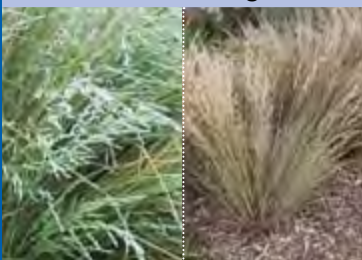
(*Dianella admixta*)



- Tufted spreading lily, grows well in full sun or semi-shade.
- Prefers moist, well-drained soils.
- Blue flowers in spring-summer followed by blue-purple berries.
- Food plant for seed-eating birds.

Common Tussock-grass

(*Poa labillardieri*)



- Fast growing tussock grows well in full sun to semi-shade.
- Prefers moist, well-drained soils.
- Plumes of flower heads in spring-summer.
- Food plant for caterpillars and seed eating birds. Shelter for lizards.
- Responds well to pruning in winter.

FOLIAGE PLANTS

20 Common Indigenous Plants

FOLIAGE PLANTS

Kangaroo Grass

(*Themeda triandra*)



- Small to medium tussock grows well in full sun.
- Prefers moist, well-drained soils.
- Decorative flowers held above foliage in summer.
- Food plant for grazing animals, seed-eating birds and insects. Shelter for lizards.
- Responds well to pruning in winter.

Austral Indigo

(*Indigofera australis*)



- Fast growing to 3m in full sun.
- Prefers well-drained soils.
- Showy pink flowers winter-spring.
- Food source for caterpillars.
- Prune after flowering to maintain a bushy form and increase flowering.

Gold Dust Wattle

(*Acacia acinacea*)



- Open, spreading shrub grows to 1-3m in full to part sun.
- Prefers well-drained soils, tolerates poor soils.
- Flowers spring-summer.
- Food source for insects and seed-eating birds.
- Responds well to pruning.

Hop Goodenia

(*Goodenia ovata*)



- Fast growing to 2m in semi-shade.
- Prefers moist soils, tolerates poor drainage.
- Yellow flowers in spring-summer.
- Food source for caterpillars and attracts insect-eating birds.
- Responds well to pruning.

Sweet Bursaria

(*Bursaria spinosa*)



- Slow growing to 5m in full sun or semi-shade.
- Prefers dry, well-drained soils.
- Masses of fragrant flowers in spring, followed by clusters of bronze seed pods.
- Food plant for caterpillars and butterflies.

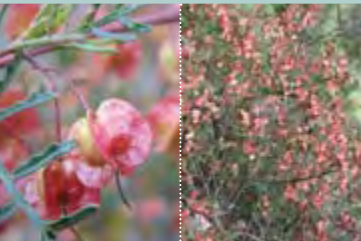
SHRUBS

Common Correa

(*Correa reflexa*)


- Fast growing to 1-2m in in full sun to semi-shade.
- Prefers dry, well-drained soils.
- Flowers in spring.
- Flowers attract nectar-feeding birds.
- Responds well to pruning.

Wedge-leaf Hop-bush

(*Dodonaea viscosa* subsp. *cuneata*)


- Hardy shrub grows to 3m in full sun.
- Prefers well-drained soils.
- Showy red-brown seed pods.
- Needs regular pruning for shaping.
- Food source for birds and insects.

Black She-oak

(*Allocasuarina littoralis*)

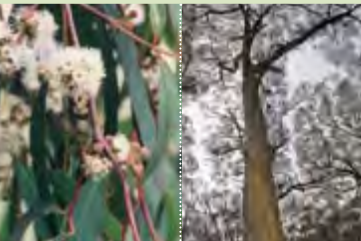

- Fast growing to 5-8m in full sun.
- Prefers well-drained soils.
- Fine weeping branches.
- Red and brown flowers in autumn.
- Food source for seed-eating birds.

Silver Wattle

(*Acacia dealbata*)


- Fast growing to 8-13m in semi-shade.
- Tolerates a wide range of soil types, but prefers deep, moist soils.
- Flowers in winter-spring.
- Food source for possums, sugar gliders, caterpillars and birds.

Narrow-leaf Peppermint

(*Eucalyptus radiata*)


- Slow growing to 12-45m in full sun.
- Prefers dry, well-drained soils, tolerates poor, stony soils.
- Cream flowers in spring.
- Food source for insects and nectar, seed and insect-eating birds.

Weeds

When a plant thrives and invades an area where it does not naturally occur and is not managed, it is known as an invasive plant, pest plant or weed. This can include plants such as Bluebell Creeper (*Billardiera heterophylla*), an indigenous plant in Western Australia, but a significant invasive plant in the natural bushland of Casey.

According to the World Wildlife Fund 'Jumping the Garden Fence' (2005) report, two-thirds of the established weeds in Australia are escaped garden plants, and many continue to be available for sale. Plants can spread from people dumping garden cuttings in parks, nature reserves and waterways. Wind can blow seeds many kilometres, for example a plume of Pampas Grass can produce 100,000 seeds per plume and be carried over 30 kilometres. Seeds and cuttings can also be carried by water, tools, vehicles, clothing, pets and wildlife.

Invasive plants are a problem because they out-compete local plants for light, water and nutrients. In a short period

of time they can replace indigenous plants, effectively removing the food source and habitat of the local fauna. It is therefore important to know which plants are a problem in Casey and to avoid planting them or consider removing them if they are already in your garden.

The following section provides a sample of some of the most common garden escapees in Casey. For more detailed information visit www.casey.vic.gov.au and search for 'weed management'.

Weed control techniques

If you have an invasive plant species in your garden and need to remove it there are a number of control techniques available. The appropriate technique depends on the size and number of plants, e.g. a few seedlings that can easily be removed by hand versus a plant that produces runners, or an established tree. Often one technique will not be sufficient and an integrated approach using different techniques is needed over time.

Hand pull: remove plants using your hands or a handheld tool. The aim is to remove the entire plant including the roots and any bulbs. It is best to hand pull weeds after rain when the soil is moist. This is a good technique for seedlings and small infestations of grass species.

Mulch: smother plants by applying a thick layer of mulch to deprive weeds of vital sunlight.

Solarisation: cover plants with a thick plastic sheet with buried edges for a period of 4-6 weeks. The heat of the sun will kill off the plants underneath. Appropriate for grass species.

Spray: use a spray bottle or pack to apply herbicide to the leaves of weeds to the point where the leaves are wet but not dripping. Take care that the herbicide does not drift onto non-weed species. Appropriate for shrubs, grasses and vines.

Cut and paint: use a hand saw to cut down small trees and large shrubs a maximum of 10cm from the ground. Paint on an application of herbicide that will prevent the stump from re-shooting. Commercial wick applicators are available or use a paint brush.











Scrape and paint: use a sharp knife to scrape a thin layer of bark from about 10cm of stem. Herbicide is then applied to the exposed soft tissue underneath. Appropriate for vines and shrubs.

Drill and fill: drill a series of downward angled holes, about 5cm apart, into the trunk of weed trees or large woody weeds. Inject herbicide immediately into the holes. Remove the tree or shrub once it is completely dead.











Herbicide use

- Only use chemical control if non-chemical control is unsuitable.
- Do not spray in high temperatures or if rain is forecast within 24 hours.
- Spray when plants are actively growing, i.e. not winter.
- Always read the label on the chemical product and follow directions for appropriate rates, safety procedures, handling and storage.
- Some chemicals require a Chemical Users Permit.

20 Common Weeds and their Replacement Plants











WEED	REMOVAL	REPLACEMENT PLANT
Blue Periwinkle <i>Vinca major</i> 	<ul style="list-style-type: none"> • Hand weed • Mulch • Solarise • Spray 	Purple Coral Pea <i>Hardenbergia violacea</i> 
Morning Glory <i>Ipomoea indica</i> 	<ul style="list-style-type: none"> • Hand weed • Mulch • Spray 	Pink Bindweed <i>Convolvulus angustissimus</i> 
Cape Ivy <i>Delairea odorata</i> 	<ul style="list-style-type: none"> • Hand weed • Mulch • Cut and paint • Spray 	Small-leafed Clematis <i>Clematis microphylla</i> 
Japanese Honeysuckle <i>Lonicera japonica</i> 	<ul style="list-style-type: none"> • Hand weed • Mulch • Spray 	Running Postman <i>Kennedia prostrata</i> 
English Ivy <i>Hedera helix</i> 	<ul style="list-style-type: none"> • Hand weed • Mulch • Cut and paint • Spray 	Purple Coral Pea <i>Hardenbergia violacea</i> 

20 Common Weeds and their Replacement Plants

WEED	REMOVAL	REPLACEMENT PLANT
Bluebell Creeper <i>Billardiera heterophylla</i> 	<ul style="list-style-type: none"> • Hand weed • Mulch • Cut and paint • Scrape and paint 	Common Apple-berry <i>Billardiera scandens</i> 
Fountain Grass <i>Pennisetum setaceum</i> 	<ul style="list-style-type: none"> • Hand weed • Spray 	Common Tussock-grass <i>Poa labillardieri</i> 
Pampas Grass <i>Cortaderia</i> spp. 	<ul style="list-style-type: none"> • Hand weed • Spray 	Thatch Saw-sedge <i>Gahnia radula</i> 
White Arum Lily <i>Zantedeschia aethiopica</i> 	<ul style="list-style-type: none"> • Hand weed • Cut and paint • Spray 	Long Purple-flag <i>Patersonia occidentalis</i> 
Watsonia <i>Watsonia meriana</i> 'Bulbillifera' 	<ul style="list-style-type: none"> • Hand weed • Spray 	Pale Flax-lily <i>Dianella laevis</i> var. <i>laevis</i> 

20 Common Weeds and their Replacement Plants

WEED	REMOVAL	REPLACEMENT PLANT
Agapanthus <i>Agapanthus praecox</i> ssp. <i>orientalis</i> 	<ul style="list-style-type: none"> • Hand weed • Spray 	Black-anther Flax-lily <i>Dianella admixta</i> 
Seaside Daisy <i>Erigeron karvinskianus</i> 	<ul style="list-style-type: none"> • Hand weed • Spray 	Cut-leaf Daisy <i>Brachyscome multifida</i> 
Flax-leaf Broom <i>Genista linifolia</i> 	<ul style="list-style-type: none"> • Hand weed • Cut and paint • Spray 	Slender Bitter-pea <i>Daviesia leptophylla</i> 
Montpellier Broom <i>Genista monspessulana</i> 	<ul style="list-style-type: none"> • Hand weed • Cut and paint • Spray 	Golden Spray <i>Viminaria juncea</i> 
Cotoneaster <i>Cotoneaster</i> spp. 	<ul style="list-style-type: none"> • Hand weed • Cut and paint • Drill and fill 	Sticky Hop Bush <i>Dodonaea viscosa</i> 

WEED	REMOVAL	REPLACEMENT PLANT
Privet <i>Ligustrum</i> spp. 	<ul style="list-style-type: none">• Hand weed• Cut and paint• Drill and fill	Prickly Currant-bush <i>Coprosma quadrifida</i> 
Desert Ash <i>Fraxinus angustifolia</i> 	<ul style="list-style-type: none">• Hand weed• Drill and fill	Black Wattle <i>Acacia mearnsii</i> 
Mirror Bush <i>Coprosma repens</i> 	<ul style="list-style-type: none">• Hand weed• Cut and paint• Drill and fill	Large Kangaroo Apple <i>Solanum laciniatum</i> 
Cootamundra Wattle <i>Acacia baileyana</i> 	<ul style="list-style-type: none">• Hand weed• Cut and paint• Spray	Hickory Wattle <i>Acacia implexa</i> 
Sweet Pittosporum <i>Pittosporum undulatum</i> 	<ul style="list-style-type: none">• Hand weed• Spray	Blackwood <i>Acacia melanoxylon</i> 

Kids in the Garden

Research has shown that children are spending too much time looking at a screen instead of playing outdoors. The benefits to children of playing outdoors are expansive and in particular, include improvements to their:

- coordination
- navigation skills
- sensory development
- problem solving abilities
- general health and wellbeing.



If you have children, you can easily incorporate some fun and exciting elements into your sustainable garden.

Nature play ideas:

- make a secret place to hide
- plant a feature tree for the kids to run around
- make a cubby
- give the kids a magnifying glass
- create a habitat garden
- make a small maze
- include a climbing tree
- grow vegies, especially fast growing peas, corn and radish
- plant different textured plants
- plant bright flowers like sun flowers
- plant native mint and lemon balm for their scent.



Visit some of City of Casey's wonderful parks, gardens and reserves. These can be found on Council's website: www.casey.vic.gov.au



Reference and Advice

Nurseries stocking indigenous plants suitable for the City of Casey area:

Cardinya View Nursery
Berwick: 9769 9887

Kareelah Bush Nursery
Bittern: 5983 0240

Southern Dandenongs Community Nursery
Belgrave: 9754 6962

Kooweerup Trees and Shrubs
Kooweerup: 59971839

Bushwalk Native Nursery
Cranbourne South: 9782 2986

Further reading

Blood, K (2001) ***Environmental Weeds: A Field Guide for SE Australia***, CH Jerram and Associates, Melbourne.

Bull, M (2014) ***Flora of Melbourne***, 4th Edition, Hyland House Publishing, Carlton.

City of Casey (2006) ***Casey Indigenous Plant Booklet***, City of Casey, Victoria.

City of Casey (2010) ***Climate Change in the City of Casey***, City of Casey, Victoria.

French, J (2010), ***Jackie French's Chook Book***, Manna Press.

Handrek, K (2001) ***Gardening Down Under***, CSIRO Publishing, East Melbourne, Victoria.

McMaugh, Judy (1991), ***What Garden Pest or Disease is That?***, Ure Smith Press, Sydney.

Scott, Rob et al. (2002) ***Indigenous Plants of the Sandbelt: A Gardening Guide for South-east Melbourne***, Blooming Books, Melbourne.

Useful websites

Sustainable Gardening Australia
www.sgaonline.org.au

Indigenous Flora & Fauna Association
www.iffa.org.au

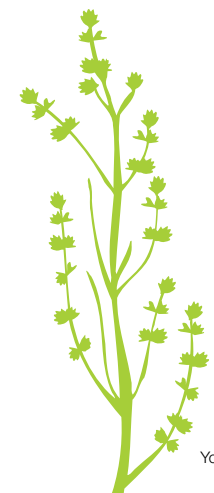
Australian Plant Society, Victoria
www.apsvic.org.au

Weeds Australia
www.weeds.org.au

Wildlife Victoria
www.wildlifevictoria.org.au

Sustainability Victoria
www.sustainability.vic.gov.au

Diggers Club
www.diggers.com.au



Contact City of Casey

03 9705 5200

NRS: 133 677 (for the deaf,
hearing or speech impaired)

TIS: 131 450 (Translating and
Interpreting Service)

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