

Become a **Garden Watersaver** today

Water is a precious resource and we all have a responsibility to look after it. It is also a vital part of our lifestyle.

By working to conserve water in our gardens, we will be making a valuable contribution to our water future and sustainability.

Inside you'll find many ideas and water saving tips that you can start using in your garden right now.

Every garden has its own unique solution and you should use the combination which best suits your needs. Whether it be in times of drought or water deluge, saving water is a worthy goal and not as difficult as you might imagine.



You can achieve a beautiful and healthy garden while at the same time be a real Watersaver.

Water efficient gardens take into account the available water, soil type and sunlight available. Appropriate garden design and gardening practices will reduce evaporative losses from your garden.

Improving the health of your soil will increase its water storage capacity, reduce the amount of water needed by your garden and ensure savings on your water bill.



Planning and design

The secret to a great garden is planning. If the design is right, your garden will look good even without much water.

'Good design is the foundation of a **water efficient garden.**'

Property characteristics

When designing, consider property characteristics such as the position of the sun in summer and winter, areas prone to wind and rain, flat or sloping land, the best views, entertaining areas and the type of soil.

The garden microclimate or environment is affected by rainfall, temperature, light, heat, shade, humidity, wind, slope, nearby structures and groundcovers.

Tip

Understand and use the microclimate* to plant a water efficient garden by matching plants to their preferred conditions.

Southern aspects in Gold Coast district gardens tend to be shady, cold and less exposed, whereas north and westerly aspects in Logan and Redland districts can be hot and exposed to dry winds in summer.

Consider coastal winds which carry salt and strong winds which can damage and stunt plant growth.

* A microclimate is: the unique mini climate within a small, defined garden area on your property.



Consider alternatives to planting

1. Gravel allows rain to seep into soil and nearby plant roots.
2. Design paths to direct runoff to the garden beds.
3. Avoid impermeable paved areas which don't allow water to soak into the ground. They are easy to maintain but create stormwater runoff that flows directly to drains.
4. Create more permeable paved and mulched areas without increasing hot spots.

Create shade and shelter

1. Windbreaks, pergolas, screens, lattice, shade cloth and vines shelter the house, outdoor living areas and plants.
2. Less heat, more shade and wind protection saves water.
3. Planted on the correct side of your house, deciduous trees will create a warm garden in winter and evergreen trees create a cool garden in summer.



Watersaver gardening techniques

Try to keep lawn areas to a minimum or follow the useful tips listed below. Ensure new plants are Watersavers. Where possible, plant between late summer and mid autumn to establish roots before the dry winter.



'Efficient water use means keeping the water where you want it.'

Useful tips for your lawn

- Aerate the lawn with a pitchfork or aerating sandals to allow water to be absorbed more easily.
- Minimise lawns or grassed areas that require more maintenance.
- Don't worry about watering the lawn in summer – it will revive when the rain returns.
- Improve its water holding capacity. This can be achieved in two ways; increase the area/depth of soil which plant roots may utilise for exploration or increase the organic content of the soil (add compost).
- When mowing the lawn don't cut the grass shorter than 2cm. If the lawn is too short it will burn because it has no leaf protection. Taller grass also holds and contains water more effectively.
- Keep lawns level for increased absorption and minimal runoff.
- Fertilise during downpours and mow early or late in the day.
- Remember brown grass lives – it is dormant and will regenerate with rain.
- Grow drought resistant lawn varieties. **Refer to our Watersaver Plant Guide** on the back.



Tip

Position and plant correctly

- Moderately dense, consolidated and well mulched planting is more water efficient than sparse, scattered planting.
- Group plants in watering zones or according to their water needs.
- Dense planting of a few varieties can be more striking than a mix of many varieties.
- Think microclimate – thirsty plants do better in cooler areas at the bottom of slopes or along the edges of natural watercourses and drains.
- Wider garden beds make watering easier and reduce runoff.



Soil and drainage

The three main garden soils are clay-based, loamy or sandy. They vary in texture and how much water they can retain. The soil types in different parts of the garden may also vary.

Simple soil test

Take a handful of soil and add enough water to mould into a ball.

Sandy – crumbles, is light coloured, has little or no smell, is low in nutrients and drains quickly.

Loamy – forms a crumbly ball, is usually brown, has an earthy smell, adequate nutrients and drains well.

Clay – balls easily, ranges from white to red or dark brown, is high in nutrients, but becomes hard and resistant to water when dry.



Tip

Soil Preparation

Boost soil health and nourish microorganisms by adding organic matter. Leaf mould, manure and compost all help retain moisture and nutrients. That means using less water and fertilisers, particularly during dry spells.

Water Crystals

Water crystals and wetting agents help to retain up to 35% water in potting mix – follow instructions to avoid incorporating too much of the product.

Drainage

Good drainage will ensure puddles and flooding do not result from landscaping. On steep slopes and banks, use mulch mats to secure plants until they establish. It's cheap and easy.

Rocks and retaining walls help hold water in upper garden beds and raised garden beds create better drainage. Suckering and tufted groundcovers are also hardy stabilisers.

Naturally sandy soils drain quickly, while clay soils can become damp and muddy giving drought tolerant plants wet feet. Some underground drainage may be needed for slow draining soil high in clay, especially on flat land, where water could pool. Consult a qualified landscaper or licensed plumber for drainage work.

Soil pH

pH is the acidity or alkalinity of soil, a value between 1 (acidic) and 14 (alkaline), and can be checked with a pH testing kit. Most plants grow best in neutral soil – not too acidic or alkaline (pH level about 7).



Choosing plants/planting

The most water efficient plants need occasional watering over summer and, depending on the weather, will survive solely on rainfall.

Local native plants are most suited as they inherently survive local weather patterns. Plants from other countries with similar climates such as South Africa, Mexico and California may also be drought tolerant, although you should be careful not to purchase plants which are weeds or which have the potential to become weeds. Suitable plants include groundcovers, climbers and shrubs of varying sizes and foliage colour. Your local garden centre, horticulturalist or landscape designer can give you detailed advice **or refer to our Watersaver Plant Guide** on the back of this brochure.

Tip

Characteristics of water efficient plants include:

- deep root systems
- thick fleshy leaves
- grey silvery leaves
- shiny or waxy coatings on leaves
- hairy or felt-like foliage
- small leaves which reduce evaporation,
- plants native to your locality

Plant types

Annuals have short life spans, usually a plant that germinates, flowers, and dies in one year, they perform best with lots of water and can be a lot of work.

Example food plants, bedding plants such as Marigolds, Salvias, Portulaca and Calendula.

Perennials return year after year, growing in size and stature until they reach their full maturity. They are the best option for gardeners with little time as they need less water and maintenance compared to annuals.

Example Jasmine, Bird of Paradise, Lavender, Daylilies, Geraniums and Hibiscus.

Also consider the following:

- the time of year for planting
- soil type and quality
- position of plants and other trees
- type of lawn
- how much sunlight, salty air and shade your garden receives?
- how much water is required?



Water zoning

Water zoning is vital for Watersaver gardening. Group plants according to their water needs to maximise water efficiency – garden beds with a mix of water dependent plants amid hardy plants are not water efficient. Ultimately, choose plants with medium to low water needs. If thirsty plants are included, place them in shady, wind-sheltered, flat areas for the most Watersaver benefits.

Planting techniques

Ensure new plants are Watersavers. Where possible, plant between late summer and mid autumn to establish roots before the dry winter.

Tip

- Dig the right hole – at least 3 times the diameter of the pot and roughen the edges.
- Ensure plant root balls are thoroughly moist before planting. Never plant a dried out root ball.
- Fertilise on the surface and around the plant base after roots are established. Don't add fertiliser into the bottom of the hole.
- Take care when transplanting – keep pots out of the hot sun before planting. Handle the new roots with care to avoid damage.
- Fill the hole carefully – Press the soil lightly around the new plant. Mulch the surface away from the plant trunk.
- Water correctly – Water new plants in. Regular, deep watering during the first season will establish roots and promote drought tolerance in future seasons.
- Adding seaweed solution encourages root growth and water efficiency more quickly.

'A high level of organic matter in your soil will **improve plant growth**, use less water and fertilisers, and promote healthier plants.'



The importance of mulch

Mulch is the magic ingredient in Watersaver gardens as it acts as an insulator between the sun and soil.

Not only does it greatly reduce evaporation, it helps conserve water, limits weed growth and, when mixed with organic materials, encourages earthworms and microorganisms for a healthy garden.

'Did you know that a layer of mulch, at least 75mm thick, **reduces evaporation** from the soil surface by as much as 70 per cent?'

How to mulch

Before mulching, weed and break up the soil then water the area well to ensure the mulch traps the moisture. Spread a mulch layer 50-100mm thick over the planted area. Leave a breathing space of 50mm around stems and trunks or it may cause fungal rot and kill the plant. Raking or turning the mulch may damage fine feeder roots. Apply mulch before the dry season, that is, winter. Reapply organic mulch at least once a year.

Tip

Try to top-up the mulch every season, as most mulches break down quickly to become part of the soil.

Water restrictions

Saving water is everyone's business. Ensure you're up to date on the current water restrictions, so you continue to use water efficiently.

Visit qwc.qld.gov.au or phone 1300 789 906 for the latest water restriction information.

Types of mulch and other do-it-yourself materials

Lucerne hay and pea straw – these decay quickly and suit most plants. They also provide nutrients like nitrogen to the soil. Be careful with other types of hay or straw, as they can contain lots of weed seeds.

Newspaper – is ideal only when creating 'no-dig gardens'. Recycling newspaper not only reduces waste, it suits most plants as mulch. Newspaper is better shredded or composted before being used on the garden. Don't add too many layers as it will stop water penetration.

Woodchip, Bushchip, Pinebark, Pinechip and Pineflake – these types of mulch decay slowly, provide few nutrients and can deplete garden soils of nitrogen but are useful around conifers.

Fallen leaves – can be used for mulch, but it's best if they're dried first or mixed with coarse material like twigs to avoid them forming a waterproof layer when they are tightly packed together. Grass clippings are even better!

Grass clippings – It's best to note compost grass clippings often contain weed seed. It's even better to leave the grass clippings on the lawn so as to not continually export nutrients.

Compost and manure – this is one of the best materials you can use, not only as a mulch but as a soil improver as well. These decay quickly and are full of nutrients.

Note: these items are not really mulch, but best applied underneath mulch to improve soil health and increase water holding capacity.

'**Monitor and adjust** the amount of water applied on a regular basis.'

Watering the sensible way

Sensible watering promotes stronger and deeper root growth making the plant more resilient to dry times.

Tip

Thorough watering, less often, trains plants to be Watersavers because their roots search deep in the soil. Less water, more often, creates shallow roots and exposure to sun, heat and burning. Water crystals are ideal for pot plants and around less hardy garden plants to provide a reservoir in the soil to retain water.

Don't forget that rainwater is an unrestricted water source.

How much to water

Generally speaking, plants only need a standard drink of 10mm, depending on soil types and conditions. The feeder roots of plants grow in the top 15 to 20cm of soil. That's why soil improvement is confined to that depth and it also determines how much water needs to be applied. In improved sandy soils a depth of 10mm of water, applied to the surface, is sufficient to wet down to 15 to 20cm. The remainder of the volume is taken up by soil particles. This 10mm application is referred to as the Standard Drink. Applying more than 10mm results in water seeping down past the feeder root zone and being wasted.

Newly established plants may need more water until they are established. However, correct plant selection, positioning, mulching and composting will conserve water. More plants die from over watering than under watering. Too much water can also create excessive plant growth, requiring more pruning, trimming and weeding.

How to water

- Water the plant's root zone only as water on plant foliage evaporates.
- A root irrigator is ideal because its probe delivers water straight to the root system.
- A trigger wand, fitted with a flow control nozzle, targets water to the base of the plant. Use a soft spray at a low flow rate to avoid runoff.

Tip: Install a drip irrigation system. An efficient dripper system uses 4 litres per dripper per hour compared to 1,000 litres per hour for a sprinkler.

Enjoy and observe seasonal changes to discover what works best for your garden. Soil moisture meters are also a great way to indicate the level of moisture in the soil so you know when to water.

'Gardens appreciate every precious drop of **sensible watering** – one good drink a week or less'.

When to water

Always be aware of water restrictions. We recommend to not water your garden or lawn between 10am and 4pm as this is the hottest part of the day with highest evaporation rates. After rain, soil may retain water. Most native plants are adapted to survive during times of rainfall and do not need additional water once established.

Tip

Choosing local native varieties and other water wise plants attracts wildlife and means less maintenance and watering.



Additional Watersaver techniques

Even with a Watersaver garden, there are more ways to save water outdoors.

Other ways to save water outdoors

1. Install a rainwater tank to use in the garden as an alternative to our water supply. Don't forget that rainwater is an unrestricted water source!
2. Use a broom to sweep paved outdoor areas instead of hosing them down.
3. Remember to regularly remove weeds from pots as they use more water than the plants in the pot.
4. Always use a trigger hose, bucket or watering can when washing your car or watering the garden.
5. Wash the car on the lawn - the lawn will get a good watering at the same time.
6. Collect your shower water to water your garden.
7. Fix leaking taps - inside and outside. A leaking tap that drips once every second can waste up to 12,000 litres of water each year!
8. Fertilise the lawn in the rain.
9. Learn more about sustainable gardening through Council's free garden workshops or your local nursery or library.
10. Keep all your kitchen scraps, lawn clippings and garden waste and make a compost heap. Compost in your garden helps retain soil moisture, so you can then water less.
11. Always be aware of water restrictions by visiting qwc.qld.gov.au



Pools and spas

By implementing the water efficient techniques below, within your pool and spa area, you can become a home Watersaver and help secure our city's water supply for today and the future.

- A pool cover is the number one water and energy conservation device for your pool. A pool cover can reduce water losses to evaporation by as much as 90%. This could help save up to 25,000 litres per year.
- Keep the pool water level halfway up the skimmer opening. Overfilling stops the skimmer working and wastes water.
- Mark the pool water level on the skimmer and check it 24 hours later. It shouldn't lose more than 6 millimetres each day. If it does, investigate for leaks and consult a professional.
- If rain is forecast, wait for the pool to refill naturally.
- When purchasing a new pool filter, look for a water efficient model.
- Consider how often you backwash the filter as this may significantly reduce water loss.
- Inspect your pool and spa frequently – under pressure, a tiny leak in a plumbing system can cause losses of more than 3,000 litres in one day.



To help you make informed decisions about products and services that will help to save water in your business, visit smartwatermark.org



Tip

Proper pool maintenance that is thorough and regular alleviates leaks, draining and having to refill.

Watersaver plant guide for Allconnex Water residents

The following plant species are ideal for our subtropical climate. Observe seasonal changes to discover what works best for a water efficient garden.



Name	Description	Soil preference	Growing conditions
Midyim Berry <i>Austromyrtus dulcis</i>	Grows to 50cm, spreading to 1 metre.	Will tolerate wetter conditions, but generally hardy.	Grows well in full sun and copes with coastal conditions.
Poorinda Royal Mantle <i>Grevillea</i>	Grows 30cm high, spreading 3m, red flowers.	Well drained, sandy soil.	Sun and wind tolerant.
Snake Vine <i>Hibbertia scandens</i>	Fast growing twiner with lush green leaves and starry yellow flowers.	Sandy dunes preferred. Will adapt to other soils provided drainage is excellent.	Full sun to part shade preferred.
Knobby Clibrush <i>Isolepis nodosa</i>	Ideal for planting around pond margins. Brownish, globular flower heads are produced through the year.	Tolerates salty spray, waterlogged and saline soils.	A tough, hardy plant which thrives in full sun in a range of soils.
Lomandra <i>Lomandra hystrix</i> & <i>Lomandra longifolia</i>	Grass-like with strappy leaves. Flowers are small but some cultivars are scented.	Suited to most soil types. Full sun or part shade.	Tolerates coastal sea breezes.
Creeping Boobialla <i>Myoporum parvifolium</i> & <i>Myoporum ellipticum</i>	Native groundcovers grown mainly to produce a nice green natural carpet over the ground.	Well drained, sandy soil preferred. Clay soils shorten lifespan of this plant.	Full sun to part shade. Tolerates wind and coastal salt.
Scaevola Mauve Clusters <i>Scaevola albida</i>	Forms a dense mat to 50cm high with mauve fan-shaped flowers.	Hardy and suitable for coastal areas, in rockery and pot/container	Prefers sun/part shade.
Warrigal Spinach <i>Tetragonia tetragonioides</i>	Succulent green leaves with small yellow flower.	Sandy soil preferred.	Ideal for coastal sandy gardens.
There are plenty of other good groundcovers varieties: <i>Chrysocephalum apiculatum</i> , <i>Dianella brevipedunculata</i> , <i>Dianella caerulea</i> , <i>Dianella congesta</i> , <i>Goodenia rotundifolia</i> , <i>Scaevola aemula</i> , <i>Themeda triandra</i> , <i>Viola hederacea</i> , <i>Xerochrysum bracteatum</i> .			

Tall Baeckea <i>Babingtonia virgata</i>	Grows to 1.5m high, spreading 1.5m in diameter. Small white flowers.	Well drained clay / sandy soil.	Full sun and wind tolerant.
Fern-leaved Banksia <i>Banksia oblongifolia</i>	Grows to 1.5m high with yellow flowers. Well suited to small gardens in the ground or as a container plant.	Easy to grow in well-drained soils.	Favours a position in full sun or dappled shade
Swamp Banksia <i>Banksia robur</i>	Small to medium shrub, 2 to 3m high and wide. The large leaves are stiff and leathery.	Will tolerate poor sandy soils and poor drainage.	Grows quickly. Full sun is required for good flowering.
Palm Lily <i>Cordyline petiolaris</i>	Grows 1m with long, strap-like leaves. White to purple flowers and red berries.	A hardy species for moist soils.	Prefers semi shade. Makes an excellent container plant and can be kept indoors.
Sago Palm <i>Cycas revoluta</i>	Striking architectural plant with rosette foliage structure. Stiff, dark green fronds. Mostly less than 2m tall but up to 2m wide.	Well drained soil essential. Adapted to sand, shale, loam soils.	Grows in full sun and part shade. Tolerant of minor coastal spray.
Myrtle <i>Melaleuca spp</i>	Extremely variable and attractive large shrubs with brilliant flowers.	Prefer free-draining, light sandy soil, making them ideal for coastal situations.	Position in full sun for best flower display, but will tolerate part shade.
Bird of Paradise <i>Strelitzia reginae</i>	Grows to 1m high, spreading 1m. Striking blue / orange flower.	Well drained clay / sandy soil with a good fertiliser.	Grows best in part sun / shade. Wind and salt tolerant.
Coastal Rosemary <i>Westringia fruticosa</i>	Bushy shrub with small leaves and blue-mauve or white flowers.	Well drained soils. Ideal for coastal gardens.	Best in full sun.
There are plenty of other great shrubs: <i>Alchornea ilicifolia</i> , <i>Banksia spinulosa</i> , <i>Eupomatia laurina</i> , <i>Hibiscus heterophyllus</i> , <i>Hovea acutifolia</i> , <i>Melaleuca thymifolia</i> , <i>Ozothamnus diosmifolius</i> , <i>Pultenaea villosa</i> .			

	Name	Description	Soil preference	Growing conditions
Climbers	Shiny-leaved Gum Vine Aphanopetalum resinolum	A native twining climber. Flowers are greenish yellow.	Requires little water. Needs a post or some wires to twine up.	Thrives in subtropical climate.
	Red Riding Hood Dipladenia sanderi	Hardy climber with dark green foliage. Produces large, rose-pink flowers for most of the year.	Prefers sandy soil that needs to be well drained.	Full sun.
	Native wisteria Callerya megasperma	Tall woody vigorous climber with pink/white flowers.	Easy to grow in well-drained soils.	Grows well in warmer coastal areas.
	Native Sarsaparilla Hardenbergia violacea	Moderate climber with pink/white flowers	Adaptable to most soil varieties.	Sunnier positions will usually result in better flowering.
	Wonga Wonga Vine Pandorea pandorana	A vigorous twining plant. Flowers are tubular and cream/purple.	Tolerates sand and loamy soils.	Very hardy. Once established, will tolerate extended dry periods.
	Richmond Birdwing Butterfly Vine Pararistolochia praevenosa	Vigorous climber.	Frequent watering, good drainage and applications of native plant fertiliser are required.	Grows best in semi shade with protection from hot sun and wind.
	Fraser Island Creeper Tecomanthe hillii	This is a small bushy climber with lovely glossy foliage.	Can grow in damp or sandy soil conditions.	Ideal for a shady garden border.
	Star Jasmine Trachelospermum jasminoides	Perfumed white flowers.	Requires a well-drained moderately retentive soil.	Likes full sun or with part-day shade. Likes to self-cling on walls.

Trees	Kurrajong Brachychiton populneus	Large native trees which are stout with glossy-green foliage. Flowers are bell-shaped.	Thrives on deeper soils but tolerant in dry conditions.	Well suited to full sun.
	Crape Myrtle Lagerstroemia indica	Small deciduous tree with highly decorative ascending branches. Grows 3-6m high.	Adapted to most soil types. Moderate to high drought and urban tolerance.	Prefers full sun for best flower display.
	Screw Pine Pandanus tectorius	Coastal small tree characteristic of beach locations. Grows up to 5-6m with prop roots.	Needs good drainage. Sandy soils best. Roots can be invasive.	Best in seaside gardens in full sun.
	Coastal banksia Banksia integrifolia	Hardy tree with dark green leaves that have a silvery underside. Can grow up to 20m.	Prefers sandy soil.	Sun, wind and salt tolerant.
	Tuckeroo Cupaniopsis anacardioides	Grows 7m high, spreading up to 4m in diameter. Has orange, bird attracting flowers.	Well drained, clay/sandy soil. Likes coastal areas.	Very hardy in sun/shade. Wind and salt tolerant.
	Tulipwood Harpullia pendula	Hardy, fast growing and grows 8m high. Orange, bird attracting flowers.	Well drained, clay/sandy soil.	Prefers full sun.
	Southern Magnolia Magnolia grandiflora	A fast-growing, evergreen tree. Huge white perfumed flowers and glossy foliage.	Performs best in rich, moist, free-draining soil.	In full sun or part shade and a sheltered position.
	Blue Lilly Pilly Syzygium oleosum	A hardy medium tree capable of reaching 15m, with a tidy pyramidal shape. Has white flowers and pink fruit.	Enjoys fertile, moist, well drained soil.	Prefers full sun but tolerates some shade. Requires minimal pruning.
There are plenty of other great tree varieties: Acronychia imperforata, Banksia aemula, Callitris columellaris, Hymenosporum flavum, Lophostemon suaveolens, Melia azedarach, Stenocarpus sinuatus, Toona ciliata				

Grass	Easy grass Zoysia	Dark green colour, can grow to 5cm and is one of the most drought resistant lawns.	Grows in sandy and clay soil types. Thrives in heat and humidity.	Sun & moderate shade. Low maintenance. Keeps good appearance even with little water.
	Seashore Paspalums Paspalum vaginatum	Bright green colour, grows easily with excellent drought tolerance.	Grows well in light sandy or clay soil. Can tolerate saline and recycled water.	Shade tolerance is poor.
	Soft Leaf Buffalo Stenotaphrum Secundatum B12	Emerald green colour, can grow to 6.4cm and is drought resistant and hardy.	Grows in sandy, sandy loam and clay soils.	Grows reasonably in shade and needs less mowing than some other grasses
	Centipede grass Eremochloa ophiuroides	Bright green course textured grass that requires low maintenance.	Tolerates sandy acid soils well. Hardy	Does not tolerate shade or excessive wear and tear due to slow growth rate.

Allconnex Water is committed to educating and encouraging water saving behaviours in all residents.

We recognise how important gardens are and the enjoyment gardening brings to many people. We hope that the tips in this brochure will assist you in creating the garden you want and save water at the same time.

Play your part – become a Garden Watersaver today.

Visit allconnex.com.au to read about our garden case studies and to learn more about our comprehensive Watersaver programs.



Nursery & Garden Industry
Queensland

Allconnex Water would like to thank the following organisations for their contribution to the development of this Garden Watersaver Guide: Nursery & Garden Industry Queensland and Gold Coast City Council's Parks & Recreational Services – Botanic Gardens branch.