GET SMART!

Planning a water-efficient, design-savvy garden is a lot easier than you think

Words **Ruth Czermak, MAILDM**

Let's face it, watering restrictions are now a way of life. Most communities have them, and while you might grumble about the inconvenience, in the end, practising sound water conservation benefits us all.

It has been estimated that up to 50 per cent of all domestic water is used in our gardens and in metropolitan areas and it is here that the restrictions have been hardest felt. As you'll see, however, there are things you can do to become more water-wise when planning, planting, reinstating and maintaining your garden, all of which will reduce your reliance on mains water, benefit the environment and make your garden healthy and pest free.

First, let's define a water-wise garden as one where there are efficient watering practices. This means taking full advantage of rainwater, recycled water, greywater, and reducing your reliance on mains water. A water-wise garden does not mean a dead or desert garden, nor does it necessarily mean a lawn-free garden. In truth, being water-wise means you can have a lush green lawn and healthy abundant vegetation. In fact, many plant problems arise from over-watering, not under-watering!

Hard surfaces

Take a look at hard surfaces such as roofing, driveways, roads, walls, and walkways. They soak up heat like crazy, which then causes the moisture in the soil to evaporate more quickly. Locating trees, covered pergolas and other types of vegetation around hard surfaces will create shade which will cool the surrounding landscape and provide protection from strong summer sun.

Many hard surfaces are designed to channel rainwater quickly and efficiently into the stormwater system and then our waterways. There is typically little or no treatment of this

ıt not only does the
hout benefiting the
ɔollution and litter into

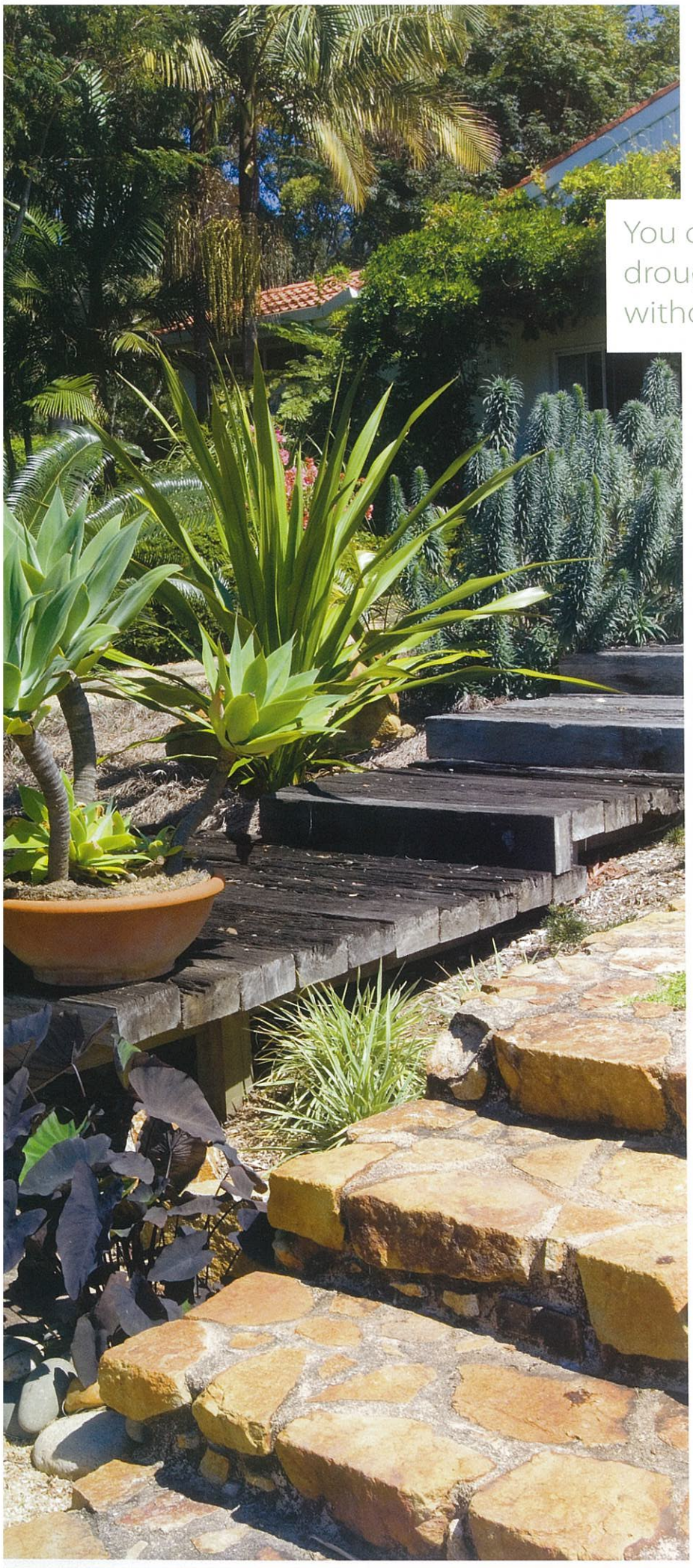
ld be just as simple
so that rainwater gets
ıe garden. This can be
vater straight into garden
re suitable, or collecting
Garden beds should
ıstructed so that they
e, if garden beds are not
ıving level, then water
replenish soil moisture.

m roofs is mixed with
, possum droppings
from traffic emissions.
ɛ on the garden with

which means that not only does the
leave an area without benefiting the
n, it also washes pollution and litter into
aterways.
nany cases, it would be just as simple
ign garden areas so that rainwater gets
red and used in the garden. This can be
by directing rainwater straight into garden
f soil conditions are suitable, or collecting
tank for later use. Garden beds should
e shaped and constructed so that they
water. For instance, if garden beds are not
ded above the paving level, then water
ow into them and replenish soil moisture.

r harvesting

vater collected from roofs is mixed with
s including leaves, possum droppings
ven heavy metals from traffic emissions.
ver, it is safe to use on the garden with



You can't have healthy and drought-proof plants without good soil.

little filtration. To maintain a good-quality rainwater supply, a rainwater tank requires good design and installation, and a regular, ongoing maintenance regime.

Stormwater collected off other surfaces may contain rubbish, oil, petrol, soil and salts. It can be used for garden irrigation but some pre-treatment such as a raingarden is usually required. A raingarden is a special area of the garden that filters water to remove pollutants before it is either stored for future use or directed back to the stormwater system.

Alternative sources

Greywater for diversion can be collected from the shower, hand basin, bath and laundry. It can contain contaminants such as faeces, urine, soil, cleaning products, fats, oils and salts. Regulations vary throughout the country but in most areas of Australia untreated, diverted greywater can be used for garden irrigation only, and must be connected to a sub-surface irrigation system.

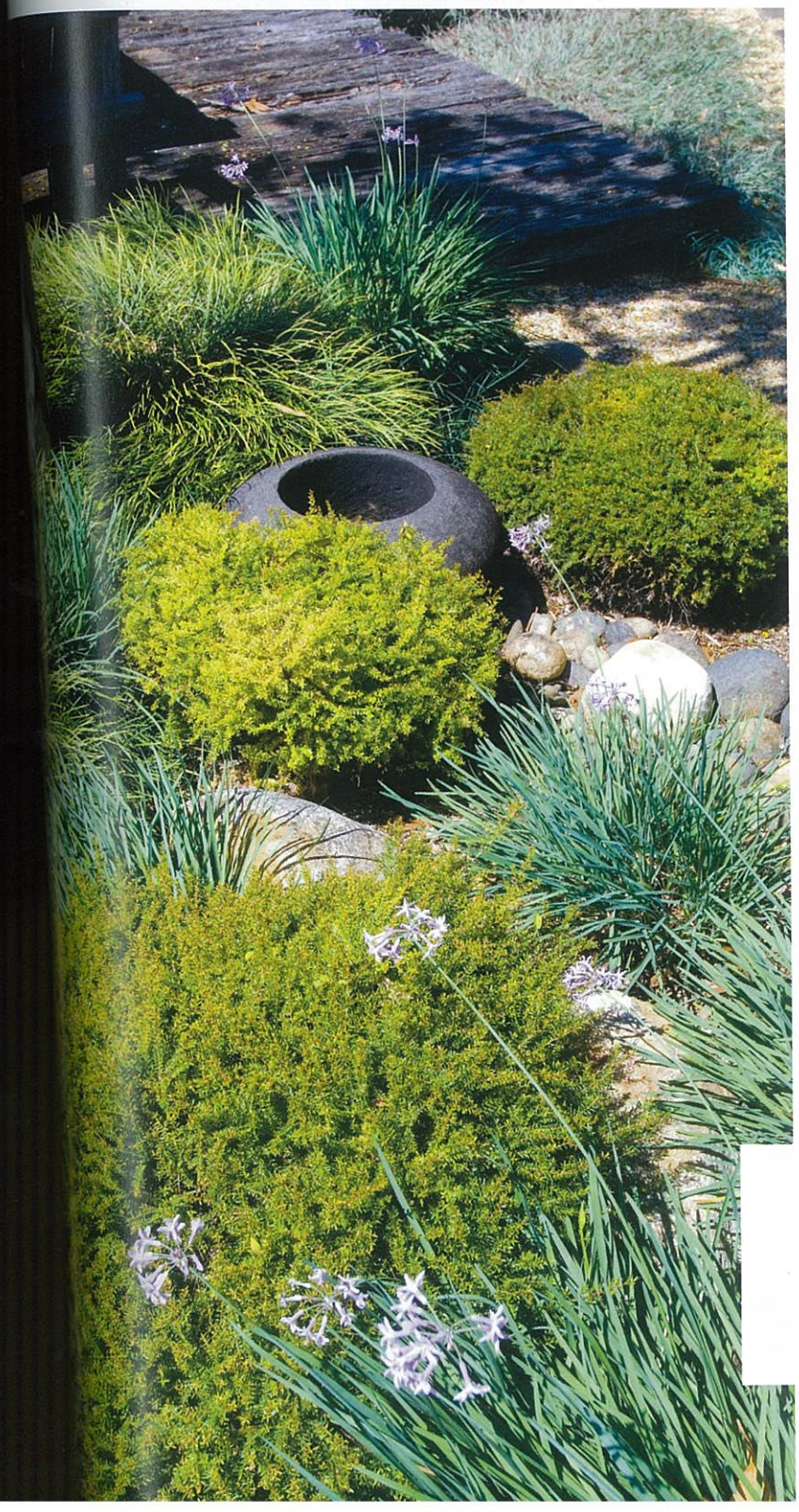
All forms of greywater are capable of transmitting disease, and can have a negative impact on your garden if it is not managed correctly. In many cases it pays to have your greywater tested before starting to use it on the garden to identify any possible problems. Greywater diversion systems should not be used in areas identified as having major limitations to on-site disposal. These limitations could include heavy clay soils, and an inability to provide an alternative disposal option in the case of on-site system failure.

Treated greywater systems are also readily available. These systems effectively remove contaminants from the water and give you better flexibility regarding how the treated greywater is used.

In all situations it is essential to ensure you have chosen an option suitable to your needs. Make sure the amount of rainwater or greywater you can capture makes your choice worthwhile both for the environment and your hip pocket.

Good soil

You can't have healthy and drought-proof plants without good soil. The better the soil, the more water and nutrients it will absorb and retain. Different types of soils have



different characteristics. Clay, for example, is generally dense and absorbs water slowly, causing run-off and water wastage. It can be improved by adding gypsum and organic matter. Sandy soil is gritty and absorbs and drains water quickly. It has a low water-holding capacity, dries out easily, and lacks nutrients. It can be improved by incorporating organic matter and even water-holding crystals. Those people with loamy soil are incredibly lucky as it retains moisture yet drains well, making it the perfect soil. In all cases it is usually better to improve the existing site soil, rather than removing it and bringing in new soil.

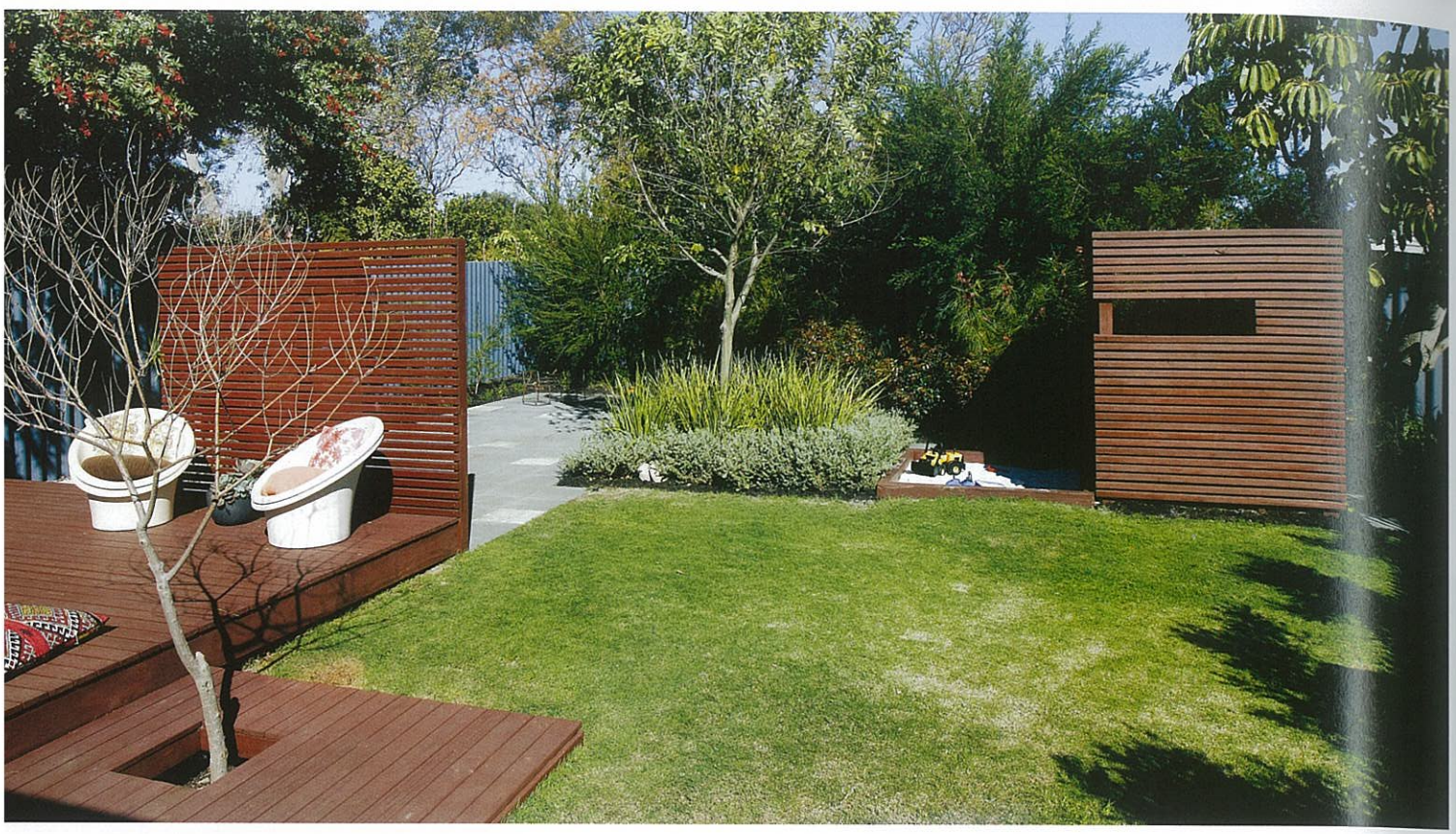
It's also a good idea to start a compost bin. This will provide you with free organic matter that can be used in the garden as well as reducing landfill.

Plant selection

The next step is to choose plants that are suitable for the local environment and site conditions. Many of our indigenous plants are beautiful, unusual and perfectly adapted to the climate and any fluctuating rainfall levels. We also have a huge variety of exotic plants we can choose from.

A good place to start is to look around your neighbourhood at the trees and other plants that are doing well. Also consider the different microclimates in your garden. You may have a naturally moist area of the garden which is shaded by a tree. This will be the ideal location for plants which originated in dense, temperate forest areas, while coastal plants might be better suited to windy, exposed areas. If you live in an area which enjoys long hot summers but suffers freezing winters, then succulents and cacti may not be suitable as they will freeze in winter.

Many of our indigenous plants are beautiful, unusual and perfectly adapted to the climate.



As a general rule, try to plant when temperatures are mild and there is rain.

Grouping plants with similar soil, sun and water needs makes it easier to irrigate your garden, especially if you are only going to water by hand. Your local nursery can help you choose water-wise plants, but remember that these plants will only be water-wise if planted in a suitable area. Another tip is to buy smaller plants rather than larger ones of the same species from the nursery. The small plants will establish stronger root systems and quickly match the size of the larger ones. The best time to plant varies throughout Australia. As a general rule try to plant when temperatures are mild and there is natural rainfall.

Using mulch

The correct use of mulch can reduce weeds, water evaporation and assist in keeping the soil moist and cool. Organic mulches include woodchips, straw and compost. As organic mulches break down they release nutrients into the soil and help to improve its structure, but remember that organic mulches will need topping up annually. Inorganic mulches include sand, pebbles and shells.

Appropriate lawn

The use of turf in unsuitable situations is a waste of good garden space, water and money. If

want a patch of lawn, plant it in a location
re it will be used. Grass planted in median
s, shady areas or on sloping areas is not
erally used much, so maintaining turf here
sn't make sense. These areas are more
ed to be used as garden beds.
he use of warm-season turf grass can
uce water requirements but be aware that
he cooler parts of Australia, warm-season
ses may stop growing and turn yellow in
ter. When mowing your grass, mow tall,
ing no more than the top third off the
s. Longer grass slows water evaporation,
os roots cool and reduces the need for
lisers. Many lawn grasses will go into
rmancy when things get tough. This is
tural, seasonal variation — there is no
son to feel guilty about it!
oots follow water gradients in the soil.
atering is shallow then the roots will be
ncentrated just below the surface of the soil.
makes them vulnerable to heat. Ensure
any irrigation systems used deliver water
where it is absorbed by the plants — the
ts. Irrigation systems that use below ground
per hoses deliver water directly to roots
hout water loss through evaporation.

igation systems

igation systems should be checked to ensure that there are no leaks and that sprinklers point to where they are required. Automatic systems should be fitted with a rain sensor to ensure they do not turn on when it has rained and checked to ensure that they are not over or under watering. A good rule of thumb is to wait two hours after irrigation has stopped, go into the garden and dig a hole. The soil should be moist down to a depth of 20cm. A hand-held soil moisture probe will also help you to decide when you need to water as it tests the soil moisture level in the root zone.

Plants in irrigated gardens can be conditioned gradually to need less water.

Watering regime

Plants, like people, are about 80 per cent water so they need it to survive. A mature deciduous tree will use around 150 litres of water a day. Plants in irrigated gardens can be conditioned to need less water, but it needs to be done gradually. If you have been watering your garden on a regular basis, try to stretch out the frequency of watering and slightly increase the length of time you irrigate for. For instance, instead of watering every second day, try every third day, then every fourth day until you can go a fortnight or more. When treated like this, plants will have a chance to adapt to the new water availability.

The same goes for plants bought from a nursery. It is usual in a nursery to irrigate once, or even twice a day. The plants are used to this watering routine. When you plant new plants in your garden you will need to provide them with additional watering until their root systems are established. Gradually, the watering should be cut back.

Plants will tell you when they need to be watered by wilting. If only a few plants in your garden need additional watering think twice about irrigating the whole garden.

The final piece of advice is to look at your garden with a keen eye. For the novice gardener, being water-wise is like anything new; it takes time, practice and observation to get things right. ML

About the author: Ruth Czermak is the principal designer at Botanical Traditions, a firm that specialises in sustainable garden design.