Barossa Bushgardens

Place Plants People

FIRE-WISE GARDENING

WHY DO YOU NEED A PLAN?

Now is the time of the year again, that we will have to prepare our bushfire survival plan. The Fire Danger Season generally runs from November to April. During the season, restrictions are placed on lighting fires and other activities to reduce the chance of bushfires starting.

As the temperatures rise and the bush, gardens and landscapes are starting to dry up - we do the same every year - trying to be prepared. In this issue, we will be providing some information about being fire ready and also, some ideas for gardening designs and local plants.

> ***"By the time you smell smoke you have probably got five to ten minutes tops…the option to leave and waiting for smoke to come over the horizon is just way too late".*** **Ian Hampel, Pinery bushfire survivor**

Understanding the Fire Danger Ratings, is an essential part of planning for an emergency.

Catastrophic (Total Fire Ban)
These are the worst conditions for a bush or grass fire and homes are unlikely to withstand fires in these conditions. It also means that emergency services are unlikely able to control a fire or protect your property.

It is wrong to assume, that the fire brigade will show up to protect your place, so the safest option is to leave high risk bushfire areas the night before or early in the day.

Extreme (Total Fire Ban)
If you are not prepared to the highest physically and mentally level, to defend your property in these conditions, it is best to leave your area early in the day.

Severe (Total Fire Ban)
Fires under this rating may still be uncontrollable, but well prepared homes may be able to be defended. Again, the safest option if someone is not prepared, is to leave early in the day.

For the ratings **Very High/High/Low-Moderate**, the general rule is to monitor conditions. A fire may start, but can most likely be controlled in these circumstances.

Getting your Bushfire Survival Plan and Emergency kit ready to be prepared for any sudden threats that may occur without warning is recommended.

The CFS has a lot of information available on how to best prepare for the Fire Danger Season.

www.cfs.sa.gov.au

HOW DOES THE DESIGN OF YOUR GARDEN OR PROPERTY INFLUENCE YOUR BUSHFIRE SURVIVAL PLAN

Removing litter from the ground, doing controlled burn-offs , cleaning out your gutters and having a fire resistant garden design - in short removing unnecessary fire hazards - can make a big difference on the decision, if or when to leave your property.

On top of that, every fire behaves very differently, dependent on weather conditions, topography, fuel load and location. Generally, every plant burns under the right conditions, so there is no solution that will protect 100% from fire.

A well prepared home

- Is more likely to survive even if you aren't there
- Can be easier for you and firefighters to defend
- Can offer more protection if a fire threatens suddenly and you cannot leave
- Is less likely to put your neighbours' homes at risk

The behavior of a bushfire is determined by three main factors:

1. **Fuel: type, quantity, condition and arrangement (includes vegetation and other flammable material)**
2. **Weather conditions: air temperature, relative humidity, wind speed and direction, atmospheric stability**
3. **Topography: slope, aspect and elevation**

As a general rule, ridgetops are more dangerous than gullies, while steep slopes are more dangerous than gentle slopes. This I because fires accelerate when burning uphill and move more slowly when burning downhill.

Dwellings surrounded by thick bushland face greater fire risk than areas where undergrowth is sparse. In such areas a wide fuel-reduced zone around dwellings is recommended. This may range from 20 metres to 40 metres on or above steep slopes.

Your objective is to minimize the amount of fuel that fire can feed off. Aside from the obvious steps – cutting back tree branches that overhang your roof, eliminating flammable construction materials like wood decking, and clearing dried weeds and grasses–there is a systematic zone approach that makes a lot of sense.

Source: Idaho Firewise, Pinterest

In general, sticking to a few rules, can already make a difference to your home:

- Plants close to your buildings should ideally be low growing, have succulent leaves or be at least 5m away from it.
- Trees and shrubs should not be planted any closer to a building or power line, than their estimated mature size

Photo: Stone wall to resist fires

- Ensure, there is not a continuous line of vegetation from bushland to the building
- Place well-watered fruit trees and vegetables on the side, which is most likely to face an approaching fire

HOW DOES THE DESIGN OF YOUR GARDEN OR PROPERTY INFLUENCE YOUR BUSHFIRE SURVIVAL PLAN

- A wind break some distance away from buildings can help by reducing wind speeds, stopping embers, slowing the spread of fire and providing a heat shield

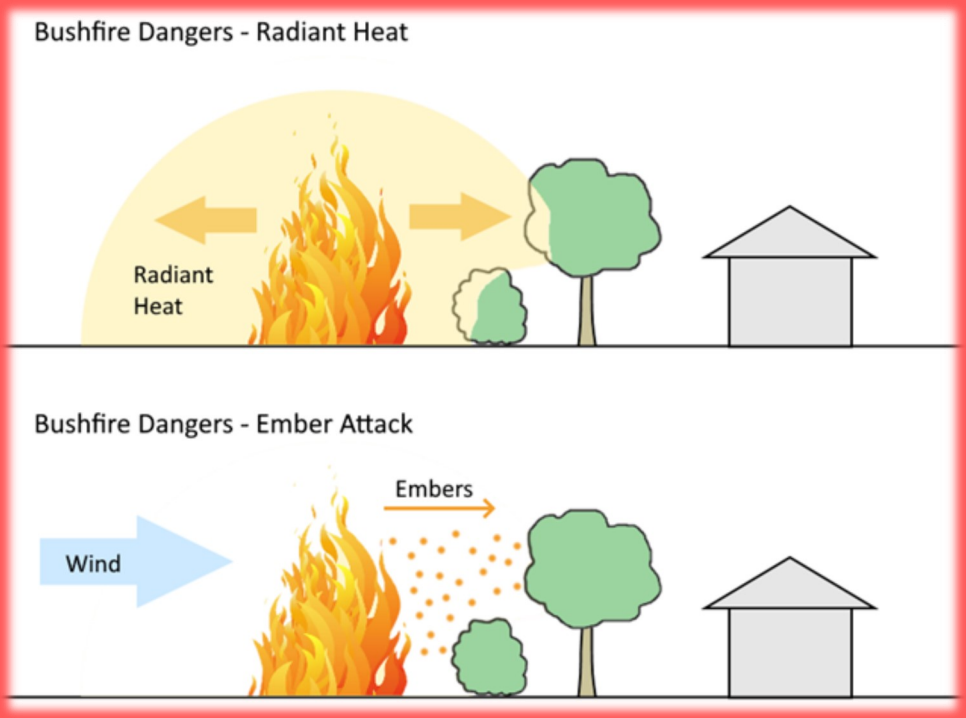
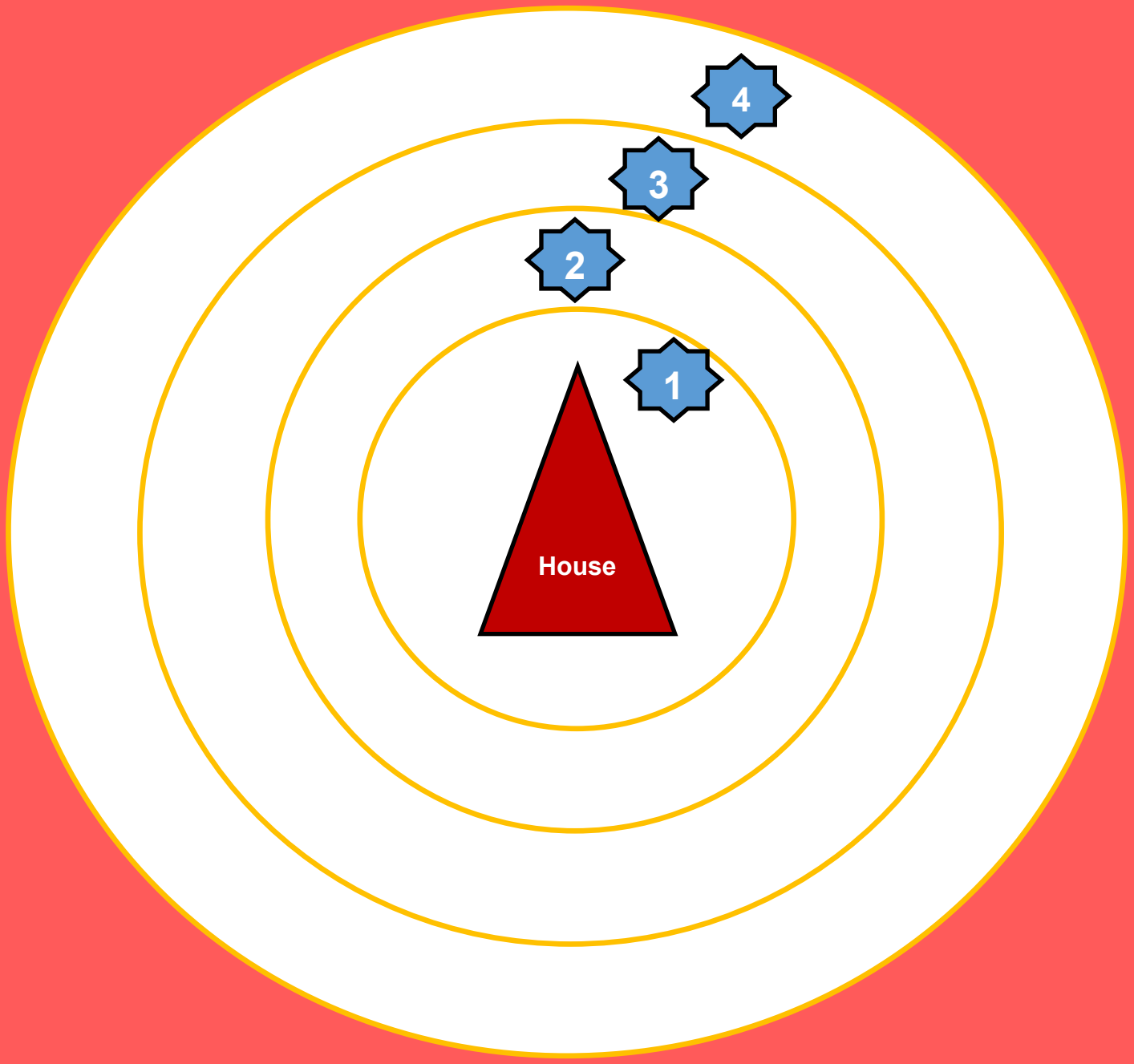


Photo: Windbreaks can protect dwellings, Source:

- Undertake routine maintenance, such as pruning, mowing, weeding and removing dead vegetation
- Provide plants with enough water, to retain moisture in their foliage
- Keep the fuel load to a minimum
- Selecting plants with low flammability characteristics, such as fleshy and moisture retaining leaves instead of oily or waxy leaves and smooth barks instead of rough barks

DESIGNING PLANTING ZONES



Picture a bulls-eye with roughly circular zones emanating outward from your house.

Zone 4 is the outermost portion of your property. For homes right on the "fringe of civilization," this is called the wildland/urban interface, where native vegetation comes right up to your property line.

Visualize islands of vegetation separated by areas of low-fuel plants or at least 20 feet of mulch. This arrangement breaks up the fuel that could serve as a fuse leading to your house. The technical term for it is "discontinuous fuel source."

Zone 3, closer to the house, consists of low growing, fine-leafed plants that burn quickly and produce short flame lengths. This way, the fire consumes the fuel in a flash and the spread of the flames is reduced.

Zone 2 are juicy plants that store a lot of moisture in their tissue. This should include very low growing plants that are harder to burn. There is a diverse palette of introduced and native garden plants to choose from.

Zone 1 is where you make your last stand. Give up the picturesque, old-school idea of foundation plantings. The last thing you want to do is mound fuel against the house –you might as well put gasoline in your sprinkler system. The plants you choose can come from the same palette as Zone 2, but it's a good idea to include some irrigated lawn, groundcovers and spaces with inert materials like gravel mulch.

WHAT ARE LOW FLAMMABILITY CHARACTERISTICS IN PLANTS?

The flammability of a plant is the combination of two key factors.

The first is how readily its parts burn and the second is, how the form of the whole of the growing plant incluences the burning of the whole plant.

For example, a Eucalyptus with stringy bark, is likely to burn a lot quicker than a european beech tree, which has smooth bark and no oily leaves.

Moisture content
Most natives have a moisture content of 80 - 150% of their oven dry weight, while deciduous trees contain 250 - 400% of their ODW. The higher the moisture, the slower the ignition. Lush green material must be dried out by the fire before it can ignite.

Ash content
Or the solid matter left after burning. It tends to be made up of alkaline compounds, that are naturally fire retardant, so low ash plants like Eucalyptus (< 10% ash) will generally glow for longer periods than deciduous trees of 30 - 40 %.

Volatile oil content
In Eucalyptus, Melaleuca, Callistemon and other Myrtaceae, the range of 5% is generally higher than other plants.

Ignition temperature
Plants with higher oil levels tend to have lower ignition temperatures, the Myrtaceae family ignites at 80 - 100 degree Celsius, so they burn with less preheating than other species, which ignite at 200 - 400 degree Celsius.

Salt content
More related to location than to species. Plants growing in saline conditions will have a higher salt content, and this retards burning.(3)

LOCAL BAROSSA FIRE RESISTANT PLANTS

Scientific Name	Common Name
Fire resistant plants	
Atriplex nummularia	Old-man Saltbush
Atriplex semibaccata	Berry Saltbush
Carpobrotus modestus	Inland Pigface
Carpobrotus rossii	Karkalla
Myoporum parvifolium	Creeping Myoporum
Rhagodia parabolica	Fragrant Saltbush
Einadia nutans ssp nutans	Nodding Saltbush
Enchylaena tomentosa	Ruby Saltbush
Eremophila debilis	Creeping Emu-bush
Maireana brevifolia	Short-leaf Bluebush
Quandong	Santalum acuminatum
Scaevola calendulacea	Dune Fan-flower

LOCAL BAROSSA FIRE RETARDANT PLANTS

Scientific Name	Common Name
Fire Retardant Plants	
Acacia acinacea	Gold-dust Wattle
Acacia argyrophylla	Silver Mulga
Dianella brevicaulis	Small-flower Flax-lily
Dianella longifolia	Pale Flax-lily
Dianella revoluta	Black-anther Flax-lily
Dichondra repens	Kidney-weed
Acacia ligulata	Small Cooba
Acacia melanoxylon	Blackwood
Acacia oswaldii	Umbrella Wattle
Pittosporum phylliraeoides	Pittosporum
Senecio pinnatifolius	Variable Groundsel
Bursaria spinosa	Sweet Bursaria
Myoporum petiolatum	Sticky Boobialla

LOCAL BAROSSA FIRE RETARDANT PLANTS

Scientific Name	Common Name
Fire Retardant Plants	
Banksia marginata	Silver Banksia
Correa glabra var. turnbullii – Narrow-bell Correa	Narrow-bell Correa
Correa reflexa – Native Fuchsia	Native Fuchsia
Eremophila spp – Emu Bush	Emu Bush
Melaleuca lanceolata – Dryland Tea-tree	Dryland Tea-tree
Olearia species – Daisy-Bush	Daisy Bush

Please note that not all plants on this list might be available any time of the year. We advise you to just come and have a look at the display table in the Community Nursery.

Some native grasses can be used as a lawn substitute and generally pose less of a fire risk due to producing less fuel load than introduced grasses do. That still means that they shouldn't be planted too close to the house or kept short during summer.

References:

Country Fire Service
https://www.cfs.sa.gov.au

Fine Gardening
https://www.finegardening.com/article/firewise-landscaping-how-safe-is-your-home

Jims Mowing
https://www.jimsmowing.com.au/2016/02/fire-retardant-trees-and-plants/

Landscape South Australia
https://www.naturalresources.sa.gov.au/files/sharedassets/botanic_gardens/bg-gen-reducingfireriskingardens.pdf

Barossa Bushgardens
653 Research Road
Nuriootpa SA 5355
(08) 8563 8330
bushgardens@barossa.sa.gov.au
www.barossabushgardens.com.au

Opening hours:
Monday and Friday by appointment
Tuesday & Thursday
9 am - 4 pm
Wednesday
9 am - 12.30 pm
Saturday and Sunday closed

Government of South Australia
Northern and Yorke Landscape Board

The Barossa Council