



Introduction

A well-designed and maintained garden will help to keep your home safer from bushfires. Your garden can reduce your home's susceptibility to attack from flames or embers by:

- appropriate selection of materials - plants, lawn, pebbles and pavements and
- careful design - the arrangement of garden spaces with these materials to have a firewise garden.

The intention is that the residence is the shelter for people (and pets) while the fire front passes. The garden should ensure that the residence and its immediate surrounds are as safe as possible. It is important that the garden does not increase the risk of the residence catching fire, even if the garden itself burns.

The most important features for firewise gardens are:

- ensure access to water with sufficient pressure to put out spot fires
- safe places to fight a fire in the residence.

Each of the ideas in this brochure are voluntary and will help to increase the level of fire protection. A firewise property will incorporate most of these ideas. Please also refer to Firewise Home Design and Construction for more information.

How does a bushfire attack?

Times of highest fire danger are times of drought when vegetation is dry and high temperatures quickly dry out surfaces and plant moisture. It takes just a few minutes for the fire front to pass. During this time flame contact and radiant heat can ignite plants, surface materials and structures. Gardens can also be ignited by the shower of embers and wind borne debris that can occur before, during and after the fire front passes.

Considerations in design and construction

LAWNS, PAVEMENTS AND MULCHES

All material immediately beside your house should be non-combustible and should extend away from all sides of the residence for a distance of at least 1.5 metres. Recommended materials are:

- short green grass - native or exotic species,
- paving - clay, concrete, asphalt, gravel, pebbles
- mulch non-combustible types – pebbles.



Mulches are beneficial for plants in many ways and garden beds should be mulched with a material that suits the purpose. However, organic mulches are flammable and unless fully saturated with water may smolder for days.

Gravels or pebbles are suitable as paving in areas of low wear and have the added benefit of allowing some rainwater to penetrate the ground and not all run off as stormwater.

GROUND COVERS AND SHRUBS

Avoid planting that will grow to be near windows, eaves or doors. Where plants are beside or against house walls they should be low to the ground and have limited flammability characteristics.

Avoid planting with a 'fire ladder effect', which is where plants provide continuous fuel up from the ground into the crown of trees.



Gardens with native plants can be firewise depending on the design and maintenance, just the same as gardens with exotic plants. Plant selection and placement, as well as management during the fire season, are important to mitigate fire risk. Native and exotic grasses are effective ground covers but should be trimmed or mown to remove dry material. Whether grown as lawn or ground cover, grass species that retain green foliage over summer are preferable.

TREES

Plant trees at a distance from the house to ensure that limbs and branches do not overhang the roof and gutters do not fill up with debris. The crowns of trees planted on the side of the residence from which fires can be expected should not touch each other.

Select tree species that have low flammability characteristics and smooth bark, ribbon bark that hangs in loose strips is highly flammable.

CLIMBERS

Climbing or rambling plants with low flammability characteristics on fences, walls or structures such as pergolas can enhance your garden and can assist in reducing fire attack.

STRUCTURES AND FENCES

Structures and fences in the garden can unintentionally contribute to the risk to the residence. Structures such as decks, pergolas, fences and trellis panels should be made from non-combustible materials and ideally not attached to the structure of the residence.

OTHER FEATURES

Locate swimming pools, vegetable gardens, orchards and paving areas (car parking, driveway) on the side from which fires can be expected.

Keep wood piles, stock feed and fertilisers inside a metal shed that is located, along with compost heaps, away from flammable structures and your residence.



Choosing the right plants

No plant is completely fire resistant and given the right conditions all plants will burn, but some plants are more flammable than others. Avoid planting species that accumulate large amounts of dead branches, needles, leaves or bark. It is for this reason that some Australian plants and conifers are unsuitable in firewise gardens.

Plants that are resistant to fire have:

- Leaves** broad, fleshy, low oil or resin content, salt in their foliage
- Bark** smooth
- Growth Habit** compact, dense foliage

Plants to avoid (more likely to burn) have:

- Leaves** fine, hard, high oil or resin content
- Bark** sheds and hangs in ribbons or highly fissured
- Growth Habit** an open airy crown



Many plants are able to live through the intense heat and wind of fires and will recover after fire. Soil moisture is required for recovery and after new shoots appear, prune back damaged growth. Many Australian plants are adapted to fire and are both flammable and will recover after fire, re-shooting even if they look 'dead.'

Maintenance

A garden is a dynamic system that constantly grows and changes. Plants considered fire resistant and which have low fuel volumes can lose these characteristics over time. Your garden, and the plants in it, should be managed to retain their firewise properties. Manage your garden so that:

- there is no build-up of dried material near the house (mow lawn, remove fallen material and leaves)
- branches touching or overhanging the house are removed
- dead branches, twigs and any strips of hanging bark are removed
- plants are watered regularly to maintain moisture content.

Irrigation and Watering Systems

Saturation watering of gardens and lawns before a fire front arrives is desirable and the use of large sprinklers can be extremely valuable in defending the home during and after the fire front, if placed so that the house surrounds can be kept wet.

However, at such times generous quantities of town water may not be available and water pressure during bushfire attack may be inadequate with the increased demands placed on the town water resources. It is therefore useful to have your own supply for the garden - refer to the companion brochure Waterwise Home and Garden Design for more information.

Irrigation systems should be underground as pipes or risers exposed to fire will burn/deform. Taps on standpipes should be metal and placed so that all parts of the garden can be reached by hoses.

Permanent sprinkler systems on roofs are of limited benefit and are generally not needed in the ACT region. It is advisable that specialist assistance be obtained before such a system is considered.

Plant suggestions

The following plant list includes some easily available species that resist burning but if they are burnt recover well and are suitable for use in the ACT (drought hardy, cold and heat tolerant, shade and sun, non-weed species). Cactus species (succulents) are not listed though many are suitable. Consult with your nursery for other appropriate plants.

SPECIES NAME	NOTES
Climbers	
Trachelospermum jasminoides	Chinese Star Jasmine ground cover/climber, evergreen
Kennedia rubicunda	Running postman rambler/climber, evergreen, native
Vitis sp	Grape fruiting or ornamental, deciduous
Wisteria spp	Wisteria, deciduous
Parthenocissus spp	Virginia Creeper/Boston Ivy, deciduous
Rosa spp	Climbing roses, deciduous
Ground Covers (all evergreen)	
NATIVE	
Ajuga australis	Aguga
Correa decumbens	Correa
Dianella tasmanica	Dianella
Grevillea gaudi chaudi	Grevillea
Myoporum parvifolium	Creeping Boobiella
Scaevola aemula	Fairy Fan Flower
Stypantra glauca	Stypantra
Viola hederacea	native violet
EXOTIC	
Acanthus mollis	Oyster plant
Agapanthus africanus	Agapanthus
Ajuga sp	Aguga
Carpobrotus sp	Pig Face
Helleborus spp	Hellebore or Winter rose
Iris unguiformis	Winter Iris
Rosa spp	carpet roses

Shrubs	
NATIVE	
Atriplex nummularium	Old Man Salt bush, evergreen
Callistemon spp	Bottlebrushes many species, evergreen
Calocephalus browni	Cushion bush, evergreen
Correa spp.	Correas, many species, evergreen
Crowea exalata	Crowea, evergreen
Dicksonia antarctica	Tree Fern, evergreen
Eremophila spp	Emu Bushes, many species, evergreen
Grevillea spp	Grevillea, many species, evergreen
Rhagodia sp	Salt bush, evergreen
Zanthorrhoea australis	Grass tree
EXOTIC	
Chaenomeles japonica	Flowering Quince, deciduous
Choisia ternate	Mexican Orange Blossom, evergreen
Daphne odora	Daphne, evergreen
Feijoa sellowiana	Feijoa, evergreen, fruiting
Garrya elliptica	Silk tassel bush, evergreen
Hebe sp	Veronica, many types, evergreen
Hydrangea sp	Hydrangea, deciduous
Nandina domestica	Sacred bamboo, evergreen
Nerium oleander	Oleander, evergreen
Photinia glabra	Photinia, evergreen
Pittosporum spp	Pittosporums, evergreen
Rosa spp	shrub roses, deciduous
Sambucus nigra	Elderberry, deciduous, fruiting
Spirea spp	May bush, deciduous and evergreen species
Syringa spp	Lilac, many types, deciduous
Viburnum tinus	Laurustinus, evergreen, also other deciduous species
Weigela florida	Weigela, deciduous

Trees (suitable sizes for most home gardens)	
NATIVE	
Acacia melanoxylon	Blackwood, evergreen
Banksia marginata	Banksia, evergreen
Brachychiton populneus	Kurrajong, evergreen
Eucalyptus leucoxylon	Whitewood, pink and cream cultivars, evergreen
Eucalyptus pauciflora	Snow Gum, also weeping cultivars, evergreen
Eucalyptus rossii	Scribbly Gum, evergreen
Eucalyptus stellulata	Black Sallee, evergreen

Trees (suitable sizes for most home gardens)	
EXOTIC	
Arbutus spp	Irish Strawberry Tree, evergreen
Cercis siliquastrum	Judas Tree, deciduous
Gleditsia spp	Honey Locust, deciduous
Koelreuteria paniculata	Golden Rain Tree, deciduous
Malus sp.	Fruiting and ornamental, deciduous
Melia azaderach	White Cedar, deciduous
Prunus sp.	Fruiting and ornamental, deciduous
Pyrus sp.	Fruiting and ornamental, deciduous
Quercus spp	evergreen Oaks (deciduous oaks are much larger)
Tillia spp	Lindens, deciduous
Ulmus chinensis	Chinese Elm, also weeping cultivar, deciduous

Further Reading

BROCHURES

- Firewise Home Gardens, April 2005, ACT Government
- Waterwise Home and Garden Design, November 2003, ACT Government
- Bushfires and the Bush Capital, A Guide for the ACT, October 2004, ACT Government

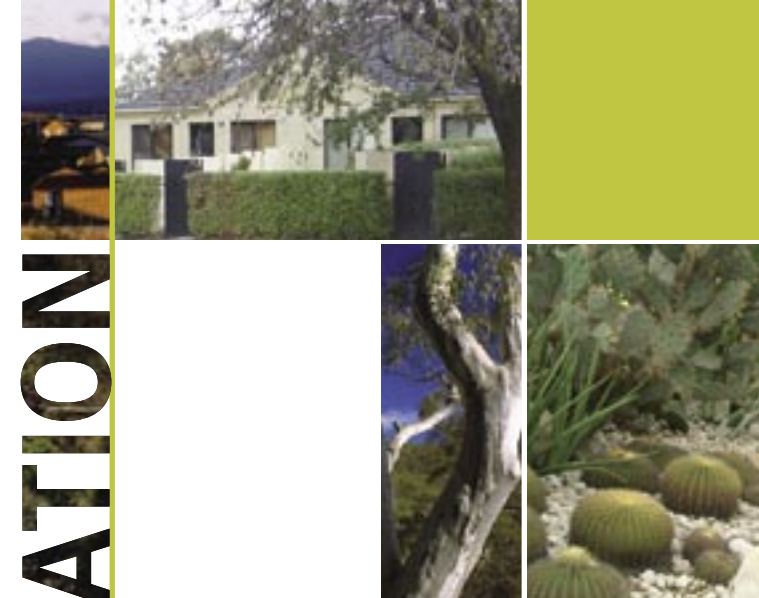
BOOKS

- Landscape and Building Design for Bushfire Areas, Caird Ramsay and Lisle Rudolph, 2003, CSIRO publishing
- Planning for Bushfire Protection, A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners, 2001, produced by NSW Rural Fire Service in collaboration with Planning NSW



For further information please contact ACT Planning and Land Authority on **62071923**

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INFORMATION



FIREWise
Home Gardens