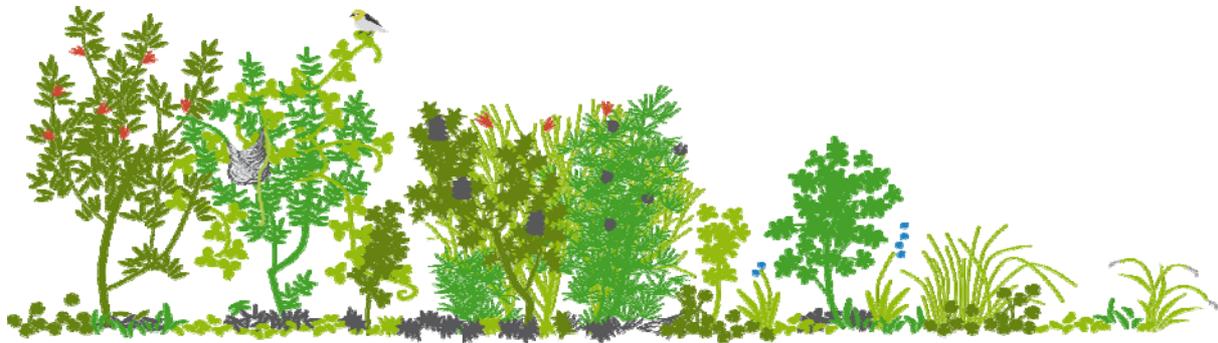


## Habitat in your garden in a bush fire prone area

This article contains information relating to native habitat planting in residential **asset protection zones** (APZ) in bush fire prone areas of urban Sydney. It is designed to encourage home owners, land managers and authorities to consider the inclusion of appropriate native habitat in bushfire-prone landscapes. The basic information can be used for other urban areas.

When we talk about creating and retaining habitat for native animals, it is often assumed that this requires the planting of dense vegetation with many trees to create a mini forest, which in turn could be considered a bushfire hazard. However, creating a native fauna habitat is not about planting a forest.

Habitat requires a diversity of vegetation types and structure, diverse plant species and other habitat features, such as rocky areas.



### What is an asset protection zone (APZ) and a bushfire prone area?

An Asset Protection Zone (APZ) is a fuel reduced area surrounding a built asset or structure. This can include any residential building or major building such as garden and machinery sheds, or industrial, commercial or heritage buildings.

An APZ provides a buffer between a bush fire hazard and an asset. Importantly it also provides an area of reduced bush fire fuel that allows suppression of fire and from which backburning may be conducted. Emergency services can use an APZ for access and it provides a relatively safe area for firefighters and home owners to defend their property.

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy

“A bushfire prone area is an area of land that can support a bushfire or is likely to be subject to bushfire attack. Bushfire prone areas are identified on a Bushfire Prone Lands Map which has been prepared for most councils across NSW.” The NSW Rural Fire Service website [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au) has more detail. Talk to your local council or RFS to see if you are in a bushfire prone area. If you live in a bushfire prone area, it is essential for you to complete a Bush Fire Survival Plan.

## Planning your garden for fire protection

When living in a bush fire prone area, land owners need to consider carefully what they include in their gardens in order to reduce the bushfire risks to you and your property.

Planning the layout of the garden is the first step.

A well-planned garden can be created in an APZ. The Rural Fire Service provides advice on their website about planning your garden as an APZ – see *Bush FireWise 2 - Trees and Fire Resistance* brochure and the publication - *Planning for Bush Fire Protection Appendix 5: Bush Fire Provisions - Landscaping and Property Maintenance*.

These publications also contain guidelines for planting barriers of appropriate vegetation which may help to slow the wind and movement of the fire and to catch embers which could affect your property.

### Habitat

With loss of habitat resulting from increasing urbanisation, it is important that we continue to extend our native habitat corridors through our gardens for the future wellbeing of both our native plants and animals and for our own enjoyment. Different animals require different types of habitat.

Birds and other animals are dependent on having a variety of food sources such as grass seeds and other plants seeds. Insects are also the major food source for some animals. These food sources are usually easier for small birds to find in more open areas. These open spaces need a protective area of dense plants (preferably native - but not essential) close by for them to dart into if danger threatens. Selected spiky shrubs can offer stepping stones of protection on the way back to a more protective area of vegetation, or if fire is threatening, away from the fire.



Other native animals such as lizards and frogs need rocks, dense vegetation and perhaps a pond where they can find food and shelter for protection from fire and predators.

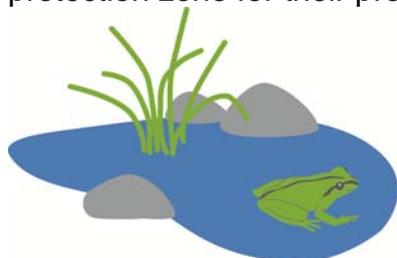


The Habitat Network website [www.habitatnetwork.org](http://www.habitatnetwork.org) has some simple documents which can be downloaded, to guide in the planting of habitat havens in a garden. When planning the location of a habitat haven, think about the landscape and

possible impacts in a fire. See the RFS publications referred to above for landscape design elements to consider. Keep the habitat haven away from built structures. And see the suggested plants below - there are some plants which are slower to burn than others which may be of benefit.

Remember: given the right conditions, all plants will burn.

Open spaces which are part of the habitat structure may offer home owners a protection zone for their property and access in which to fight spot fires.



### **Planting habitat in your APZ garden**

By selecting appropriate plants and following the RFS guidelines it is possible to have an asset protection zone and a habitat haven too.

Within your garden you can pick a couple of sites to manage or plant as habitat havens. Habitat havens do fit within the RFS landscaping guidelines. The Habitat Network does **not** encourage landowners to plant forests – rather to plant a diversity of vegetation species utilising a varied use of space and scale including dense areas of native habit, areas of low shrubs and open spaces.

When planting a habitat haven in bushfire prone areas, landscaping elements including open spaces, paths, gravel areas, entertainment areas, lawns (preferably using native ground covers), etc. can be used to create necessary breaks in the continuity of the vegetation. It is also recommended that habitat havens not be planted close to your house.

Keep leaf litter and mulch to a minimum, and make up for this in the habitat context by providing more rocky areas where insects and lizards can find shelter and protection.

### **Selecting plants species which do not burn easily**

A Question of Balance is a grassroots environmental radio program. Information and links can be found at [www.aqob.com.au](http://www.aqob.com.au). In an interview **Cuong Tran** from Griffith University in Brisbane in a program entitled “**Choosing plants and landscaping to reduce bushfire risks**” discusses fire wise decisions for the garden. Hear the segment or read the full transcript on the website. A few key points:

- It is important to keep the ecology of our landscape rich and diverse.
- Plants that have leaves which are larger and thicker with smooth edges are less flammable and take more heat to dry out and ignite.

- Plants such as Eucalyptus which have high volatile oils should not be added to bushfire prone landscapes, except as small clumps which have no fuels directly below them to allow the fire to climb into the canopy.
- Trees with smooth bark and which produce less litter are preferable.
- Maintain a clear space between the canopy of trees and the understorey to reduce the vertical spread of fire into the canopy, also clear leaf litter.
- Have taller plants away from the house staging down to smaller lower shrubs closer to house.
- *Dianella* and *Lomandra* have large smooth leaves therefore are good around the house (not touching the house) but pruning dead leaves and keeping them well watered is still necessary. They, as are other plants, are useful as pockets of habitat.
- *Hardenbergia violacea* – crackles and spits but doesn't catch fire – great for insects and habitat – but as with all plants in an APZ, you need to keep it maintained.
- Design and management of your landscape is most important – **think about if a fire was burning what would happen – read the landscape – think about how you would access and manage spot fires.**

The Rural Fire Service publication *Planning for Bush Fire Protection 2006 - Appendix 5: Bush Fire Provisions - Landscaping and Property Maintenance* provides the following advice:

All vegetative material can burn under the influence of bush fire. With this in mind, careful attention must be paid to species selection, their location relative to their flammability, avoidance of continuity of vegetation (horizontally and vertically), and ongoing maintenance to readily remove flammable fuels (leaf litter, twigs and debris).

What is clear is that the higher moisture content of leaves (ie mesic plants), the less bark that is available and the lower the leaf drop, will all assist with maintenance of the understorey and will also assist in reducing bush fire attack.

Work in the USA and elsewhere has also suggested that in addition to removal of understorey species, the trimming of lower limbs of trees also assists in reducing fire penetration into the canopy. Trees such as 'pencil pines' and African olive have been attributed with high fire propagation due to the high fine fuel and/or oil content captured within the canopy. This leads to significant flame height. Avoid such species in favour of rainforest species such as Figs and Syzygium.

When choosing plants, be sure not to introduce weed species into an area. Fire events may provide the opportunity for weed species to spread and may contribute fuel to an area of otherwise lower fuel loads.

Contact local councils, plant nurseries and plant societies to determine suitable species for your area.

## **Types of plants which are more appropriate in an APZ**

In the Sydney context it is not appropriate or desirable for us or the native birds and animals to totally remove the understorey and trees. These native plants and animals are why we moved close to the bushland in the first place.

It is however appropriate in our gardens to clear below canopy trees to avoid fire reaching the canopy. We can have shrubs and groundcovers in other parts of the garden. It is recommended that tall plants are away from the house and that they graduate down to groundcovers towards the house. It is also a good idea to keep all vegetation away from the walls.

By following the RFS guidelines it is possible to plant or manage a "Habitat Haven" (see [www.habitatnetwork.org](http://www.habitatnetwork.org)).

As suggested above, rainforest species such as Fig and Syzygium (possibly not Lilly Pilly) are good to use in APZs. These are all plants with smooth fleshy dark leaves. Other plants with similar characteristics can also be useful. These plants can be used to create barriers away from houses to slow low flying embers and also offer habitat and protection to some of our native fauna.

Below is a list of some understorey and groundcover species which we believe to have qualities which means that they burn more slowly than other species. Some may not survive a fire and may need to be replanted. These lists are compiled from anecdotal evidence.

### **Shrubs**

*Acacia, Atriplex, Banksia, Callistemon, Dodonaea, Einadia, Grevillea, Hakea, Myoporum*

### **Ground covers**

*Dianella, Dichondra, Einadia, Eremophila, Lomandra, Pelargonium, Pultenaea, Scaevola*

### **Climbers**

*Hardenbergia, Kennedia*

Plant native grasses sparingly in amongst other less flammable native ground covers. Using a variety of plants will offer different food opportunities to native fauna. Seed eating birds are dependent on the grains from grasses.

The Australian Native Plant Society has some good advice on planting in fire prone areas and includes a list of native plants for such areas. See their website <http://anpsa.org.au/fire.html>. It is suggested that this list can be taken to the local council, Catchment Management Authority or someone with knowledge of local native plant species to identify which species are local to your area. Local native plants are better for habitat plantings for the local species of fauna and for bushland corridors. Mix these with your favourite garden plants for greater diversity and enjoyment.

## Plants less appropriate in an APZ

Plants in the Myrtaceae family, such as *Eucalyptus*, *Melaleuca* and *Leptospermum*, contain oil glands in the leaves and are more inclined to burn and to spread fire. Plants such as these should be well away from houses. Tall trees, at an appropriate distance from a house can make good barriers to ember attack. The key is to not plant a grove of the same species, but to have trees such as a gum tree or tea-tree in isolation with a well-cleared area below.

It is better to use trees that do not have loose, fibrous or stringy bark. If you do have plants such as these near your house make sure you are well prepared in bushfire season by cleaning gutters and raking / removing ground litter.

Grasses may often dry out and allow a fire to run. Before the fire season rake and remove any dead leaves. Try mixing grasses with other more succulent groundcovers. Break up the horizontal continuity of fuels with a few well-worn tracks throughout your garden.

Leaf litter and mulch should be reduced and avoided in bush fire prone areas.

**Remember all plants will burn.** Your best defense against fire is to prepare your home. See the RFS publication [Prepare. Act. Survive](#) in the Bush Fire Safety Publications on the RFS website.

## Learning about fire

The **Hotspots Fire Project** is a hands-on training program which provides landholders and land managers with the skills and knowledge to actively participate in fire management for the protection of life and property while at the same time ensuring healthy productive landscapes in which biodiversity is protected and maintained. It is delivered by the NSW Rural Fire Service and the NSW Nature Conservation Council. For information see the [Hotspots Project](#) page on the RFS website.

See also [www.fireandbiodiversity.org.au](http://www.fireandbiodiversity.org.au) – South East Queensland Fire and Biodiversity Consortium (SEQFBC) which is looking into best practice fire management. There are a number of excellent resources for all landowners and land managers which can be downloaded from the publications section of this site.

## Contributors

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We also thank various Northern Sydney Councils for their comments.

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A Question of Balance – radio segment - [www.aqob.com.au](http://www.aqob.com.au) on “Choosing plants and landscaping to reduce bushfire risks” - Cuong Tran discusses fire wise decisions for the garden.

South East Queensland Fire and Biodiversity Consortium (SEQFBC) - [www.fireandbiodiversity.org.au](http://www.fireandbiodiversity.org.au)

Australian Native Plant Society - <http://anpsa.org.au/fire.html>

Garden Web - [www.au.gardenweb.com](http://www.au.gardenweb.com) - fire-retardant plants forum

Burney College of Horticulture - [www.global-garden.com.au/burnley/feb00dte.htm](http://www.global-garden.com.au/burnley/feb00dte.htm)

Australian Plants Online - <http://anpsa.org.au/APOL15/sep99-14.html#ignite>