



## Creating bird-friendly gardens in bush fire prone areas: Fact Sheet

Many people live near the bush to see and hear native birds and other wildlife. Having them visit makes a garden more interesting and habitat gardens help wildlife by providing stepping-stones to bushland.

However, living near the bush can also bring the risk of bush fire. One of the main ways to reduce the risk is a well-designed and maintained garden that acts as an Asset Protection Zone (APZ). An APZ is a fuel-reduced area surrounding a built asset such as a house or shed. It is a key element in reducing the impact of bush fire along with house and property maintenance and a Bush Fire Survival Plan.

An APZ can also provide habitat and offer food, shelter and water for native animals. This fact sheet is a guide to creating an APZ that attracts birds and other wildlife and helps protect your home from bush fire.

### Creating habitat for birds

First identify the bird species from your local area you would like to attract, then choose plants that will provide the food, shelter and nesting sites they prefer. Native plants and birds have evolved together, so local plants are best. Remember that different plant species fruit and flower at different times. Select a range that will ensure food is available throughout the year.

Small birds, such as fairy-wrens, finches, spinebills, robins and silvereyes, use dense thickets as protection from larger, aggressive birds, cats and foxes. They like clumps of vegetation with a range of habitats, such as one or two large shrubs and a mix of small to medium-sized (1m-2m) dense or spiky shrubs, as well as native grasses and ground covers to provide food for seed and insect eaters. To inhibit the spread of fire from the ground layer to the middle and upper canopies, maintain a substantial vertical gap between each level.

### Establishing an effective Asset Protection Zone (APZ)

Creating and maintaining an APZ is one of the things you can do to reduce bush fire risk. The design and construction standard of your buildings, fire fighter access, water supply for fire fighting, and reliable electricity can also help. An APZ is a fuel-reduced buffer between a bush fire hazard and an asset, such as your home. They reduce the risk of buildings being damaged by direct flame contact and radiant heat and reduce the likelihood of embers taking hold. They also provide access for fire fighting.



**Above:** Residential property with a well designed and maintained bird friendly garden that meets APZ requirements

The width of an APZ depends on the type of building or other asset being protected, the slope of the land and the type of nearby bushland. If your property is close to bushland and your APZ is the only separation between your house and the bush, it should be kept as a minimum fuel area and extensive use of native plants is discouraged.

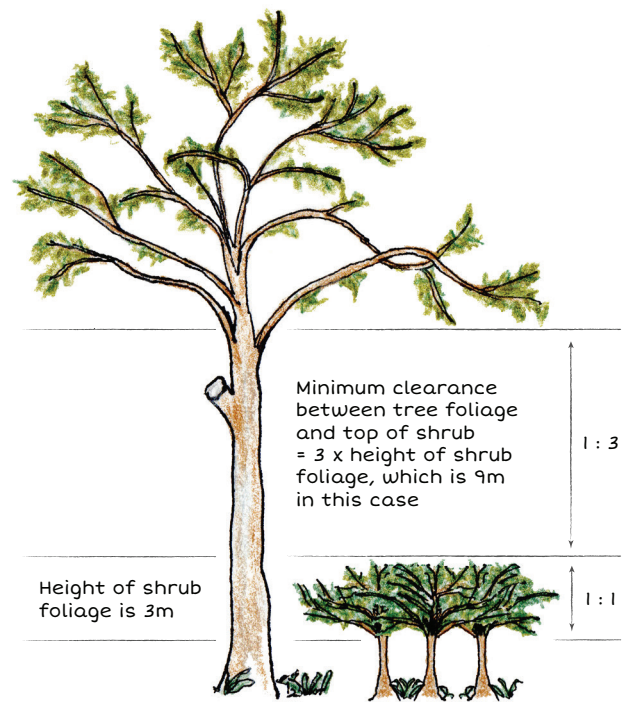
For gardens where it is appropriate to include native plants for habitat, avoid creating a continuous ladder of vegetation that could transfer a ground-level fire into the tree canopy. While the vertical gap required will vary depending on the plant species and local conditions, such as moisture, wind and slope, here is a general rule of thumb:

- For individual plants, apply a 1:2 rule. If the shrub is 1m from the base of the foliage to the top, the gap between the top of the shrub and the foliage of the tree above it should be 2m i.e. double the distance.
- For clumps of plants, apply a 1:3 rule. If a patch of shrubs is 3m from the base of the foliage to the top, the gap between the top of the shrubs and the foliage of any trees above them should be 9m i.e. three times the distance (Figure 1).

In an APZ, tree canopy branches should not overlap and shrubs and small groups of plants should be widely separated. Gardens, paths and open spaces such as entertainment areas, pools, vegetable patches and lawns can be used to provide horizontal separation between areas of vegetation.

The placement of plants will depend on the characteristics of each site and the bush fire risk, but Figure 2 provides an example of distances to be considered while planning your garden.

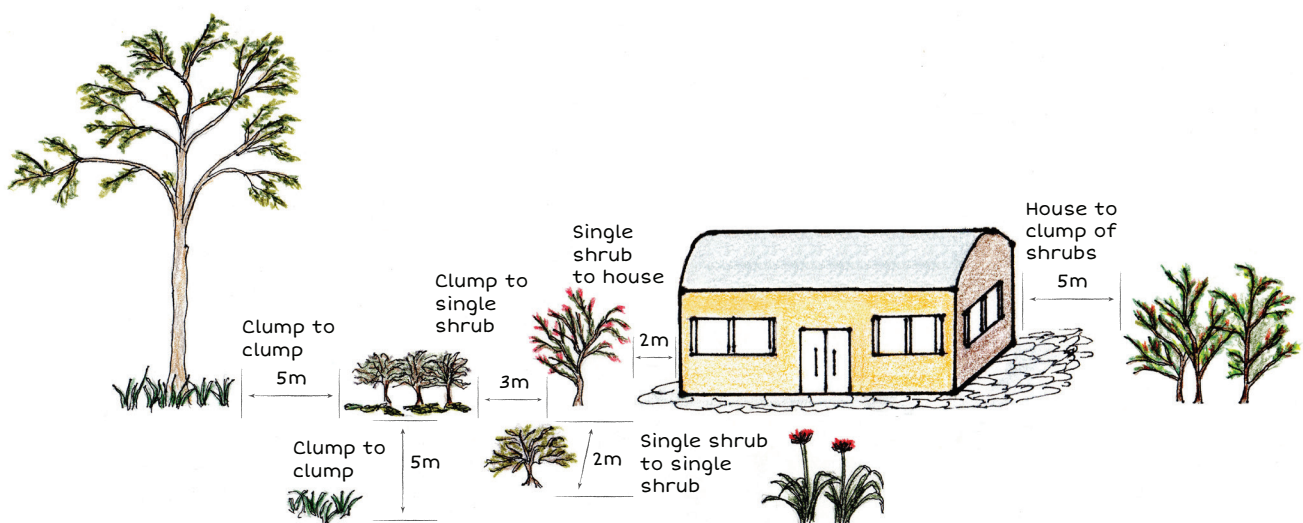
- More than 5m between clumps of vegetation;
- More than 3m between clumps and individual shrubs;
- More than 2m between individual shrubs;
- More than 2m between individual shrubs and buildings;
- More than 5m between clumps of vegetation to buildings; and
- Ideally, trees should not be in APZs, but when they are the canopies should be least 3m from houses.



**Figure 1:** The rule of thumb used to estimate the vertical gap between tree and shrub foliage







Regardless of the measures taken, if you live in a bush fire prone area, there will always be a level of risk to you and your property. That's why you should always complete a Bush Fire Survival Plan. For more information go to [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au).

For details about APZs and whether you need Environmental Approval to establish one, contact your local NSW Rural Fire Service Fire Control Centre.



**Figure 2:** An example of horizontal distances to consider for a garden in an APZ

## Habitat and food requirements for birds of the Sydney area

|   | Bird Type   | Habitat Preference  | Food source   |
|---|---|---|---|
|    | <p><b>Insect eaters</b></p> <p>Superb Fairy-wren, Eastern Yellow Robin, Spotted and Striated Pardalotes, Willie Wagtail</p>   | <p>Dense shrubs for protection and nest sites, near open areas for foraging.</p>              | <p>Invertebrates on the bark and leaves of shrubs and trees, or on the ground.</p>  |
|    | <p><b>Small nectar feeders</b></p> <p>Eastern Spinebill, New Holland Honeyeater, Brown Honeyeater</p>   | <p>Shrubs and trees for foraging, perching and nesting. Some require hollows for nesting.</p> | <p><i>Banksia, Callistemon</i> (Bottlebrush), <i>Eucalyptus, Grevillea, Hakea, Melaleuca</i> (Paperbark).</p>   |
|   | <p><b>Large nectar feeders</b></p> <p>Red and Little Wattlebirds, Rainbow Lorikeet, Scaly-breasted Lorikeets, Noisy Miners</p>  | <p>Shrubs and trees for perching, nesting and foraging. Some require hollows for nesting.</p> | <p><i>Banksia, Callistemon</i> (Bottlebrush), <i>Eucalyptus, Grevillea, Hakea, Melaleuca</i> (Paperbark).</p>   |
|  | <p><b>Seed eaters</b></p> <p>Galah, Eastern Rosella, Pale-headed Rosella, Sulphur-crested Cockatoo, Common Bronzewing, Red-browed Finch, Double-barred Finch, Chestnut-breasted Manikin</p> | <p>Shrubs and trees for perching, nesting and foraging but also forage on mature grasses.</p> | <p>Trees and shrubs: <i>Acacia</i> (Wattle), <i>Casuarina</i> (Sheoak), <i>Leptospermum</i> (Tea tree).</p> <p>Grasses: <i>Lomandra, Themeda, Poa</i></p> |
|  | <p><b>Fruit eaters</b></p> <p>Wonga Pigeon, Common Koel, Silvereye, Satin Bowerbird</p>   | <p>Shrubs and trees are important.</p>  | <p><i>Ficus</i> (Figs), <i>Syzygium</i> (Lillipillies), <i>Eleocarpus</i> (Quandong).</p>   |
|  | <p><b>Meat eaters</b></p> <p>Currawongs, Laughing Kookaburra, Grey and Pied Butcherbirds, Powerful Owl, Black-shouldered Kite, Peregrine Falcon</p>   | <p>Tall trees for perching, roosting and nesting. Some require hollows for nesting.</p>       | <p>Other birds, reptiles, frogs, mammals, invertebrates.</p>  |

# Guide to making a bird-friendly garden

Here are four steps to creating a bird friendly garden with reduced bush fire fuels.

## Step 1: Design your garden

- Map the layout of the existing garden.
- Where there is existing native habitat, incorporate it into the plan rather than clearing and then recreating it.
- Identify areas where available space allows new shrubs and clumps to grow with sufficient separation. Remember to have good clearance around buildings and vegetation clumps.
- The size of clumps will vary depending on the distance between features and the size of the property, but 2m x 2m clumps have habitat value and can be easily maintained.
- Consider the size plants will grow to during the planning phase. Do not plant trees that will be large at maturity in the APZ.
- Prevent fire from reaching tree canopies by designing for separation between the ground and the canopy.
- Trees should not have canopy branches that overlap.
- Plant vegetation into clumps with horizontal separation rather than continuous rows.
- Ensure low fuel areas such as paths, paved/graveled areas, vegetable patches and managed lawn (preferably native ground covers) are incorporated into your design to provide horizontal separation.
- Ensure plants are not planted near the house (particularly near windows and doors), or other assets.
- Use inorganic mulches such as pebbles in garden beds to reduce the risk of embers starting spot fires. If organic mulches are used, only use ones with particle sizes larger than 6mm in diameter rather than fine ones such as straw or sugar cane mulch.

## Step 2: Select plants

- Choose plants that are suitable for those birds you want to attract and the food they provide. Contact your local council for information on where to source local native plants for your area.
- Try to achieve a range of habitats within clumps by including one or two large shrubs with a mix of small to medium sized (1m-2m) shrubs. Some suggestions include:
  - » *Leptospermum* (tea tree), *bursaria* and *grevillea* are suitable as a haven due to their dense structure. Avoid hybrid grevilleas that attract big and aggressive honeyeaters. Remember small flowers are good for small-beaked birds.
  - » Plants such as *hakea*, *banksia*, *bursaria*, and some *acacias* (wattles) provide spiky protection.
  - » *Lomandra* (mat rush) and *prostanthera* (mint bush) provide low shrub cover.
  - » Plants such as *viola* (native violet), *dichondra*, native geranium, *microlaena* (weeping grass), *entolasia* (panic grass), *poa* (tussock grass) and *themeda* (kangaroo grass) are useful groundcovers and grasses. However, if grass tussocks are used they can be very flammable when they dry out and need to be cut back heavily in summer.

- Consider plant flammability. Given the right conditions all vegetation will burn, but some types of plants are less flammable than others. Smooth-barked trees are preferred to those with stringy, fibrous or ribbon bark.

## Step 3: Consider other habitat features

Apart from plants, other features to consider for native birds and other native animals such as lizards and frogs are:

- A bird bath or small pond. Bird baths should be elevated to make it easier for birds to escape predators.
- Large logs (150mm minimum width) that are not decaying, rocks, ceramic pipes and even pieces of concrete provide habitat, particularly for reptiles and frogs. Support logs above ground on rocks or other non-organic material to slow decomposition. Ensure that logs and bush rock come from legitimate sources.
- Rockeries provide open, sunny areas, and when near low vegetation are ideal for lizards and other reptiles.
- Hollows/nest boxes designed for specific types of birds add another dimension to your yard.

## Step 4: Maintenance, maintenance, maintenance!

Maintaining your garden is critical for retaining its habitat value and reducing its bushfire risk. Most native plants can withstand some pruning. It can make them more dense and help maintain open spaces for foraging.

- Prune the lower branches of shrubs to maintain a gap from the plant to the ground. Tip prune new growth on shrubs after flowering so they remain manageable.
- Trim trees so that branches do not overhang buildings. Ensure lower branches are separated from any plants beneath. Fast growing plants such as sweet *pittosporum* need to be managed by hard pruning.
- Native grasses can be heavily cut when brown, and will return in spring looking lush.
- Regularly gather and dispose of ground litter such as leaves, bark and twigs.
- Routinely clear gutters.

## Further information

Birds in Backyards website: [www.birdsinbackyards.net](http://www.birdsinbackyards.net)

NSW Rural Fire Service website: [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au)

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Some of the information in this fact sheet has been reproduced from the NSW RFS publication Standards for Asset Protection Zones. Dr Phil Zylstra (University of Wollongong) developed the vertical gap rule of thumb using the Forest Flammability Model. Photos provided by Andrew Silcocks and Chris Tzaros. Illustrations by Christine Miehs. Text written by Greg Banks.

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