



Guidelines for the Development of Bird Habitat

User: Schools

Why create school gardens for birds?

Birds are the most conspicuous animal species in urban environments. Whether taking a walk through a park or simply sitting in a garden, we have the opportunity to observe birds on a daily basis. They can be joyful, beautiful, funny, cute, melodic or raucous and provide us with an amazing opportunity to connect with and learn about the natural world. While we do have an amazingly diverse range of birds living in urbanised habitats, the bird communities are changing. Our small native birds such as the Red-browed Finch and Superb Fairy-wren are becoming less common, replaced by dominant and aggressive species. In NSW these include the Noisy Miner, Pied Currawong and the Rainbow Lorikeet, but other states may have a different mix.

School grounds, parks and other open spaces have considerable potential to prevent further biodiversity loss by enhancing the connectivity between bushland remnants and by providing habitat in their own right.

Birds in Backyards Syllabus Links

Creating and monitoring a bird-friendly garden in your school can also address specific components of both the primary and secondary syllabus and instil environmental awareness and a sense of pride and ownership in the students.

The *Birds in Backyards* programme addresses specific components of both the primary and secondary syllabus:



For more detailed guidelines for creating habitat for birds in the urban environment, please refer to the *Scientific Report* available at: www.birdsinbackyards.net/spaces/guidelines.cfm

- **K–6 Science and Technology:** Living Things, Investigating, Using Technology
- **K–6 Human Society and Its Environment:** Environments
- **7-10 Science Prescribed Focus Areas:** The Nature and Practice of Science
- **7-10 Science Skills:** Gathering, Analysing and Presenting Scientific Information
- **7-10 Science Knowledge and Understanding:** Classification, Ecosystems, Human Impacts
- **Geography:** Stages 4, 5 and 6

How to create a bird friendly garden

1. Assess your garden and school grounds and its current bird life. Consider these questions:

- What vegetation is currently available? Is it very simple such as open lawn and a few scattered trees or is the site structurally complex with lots of layers of different vegetation e.g. trees and shrubs of different heights, grasses, ground covers, leaf litter? A more structurally diverse garden will support more bird species. In understanding the habitat currently available you can then select the vegetation that needs to be planted.
- Identify a suitable location for your bird garden. The garden should be placed somewhere in the school grounds that is not disturbed at every break. It should be able to be easily accessed for planting and maintenance and able to be viewed by students or classes monitoring it. Ideally it could be connecting to other patches of vegetation like bushland or parks.
- What birds are using the garden and are in the area? Know which species you are trying to target, for example small birds or parrots. You should be trying to encourage birds that occur in the area around your garden and are realistically going to use the site. It is no good creating a habitat for Superb Fairy-wrens if they haven't been seen anywhere near the site in 20 years. However if they are located a short distance away then creating a habitat for them has a much greater chance of success. Your local councils, bird club or local landcare group should have bird lists for your area but it is easy to complete your own surveys. The Birds in Backyards surveys are ideal for this: <http://www.birdsinbackyards.net/surveys/>. You will not only be able to monitor your own garden before, during and after you make changes to it but you can also contribute to a database of gardens Australia-wide and provide important information.



2. Prepare a Plan for your garden

Before beginning any work, plan and outline exactly what you need to do and what you want to achieve. Consider each individual piece of work that must be completed such as an assessment of the current vegetation and bird life, planting of new vegetation, weed removal and disturbance minimisation. Be realistic in what can be achieved, prepared to adjust plans if necessary and maintain a flexible approach to their implementation.

Look for school grant programs that could help fund your habitat restoration plan, for example Eco Schools grants (NSW Environmental Trust <http://www.environment.nsw.gov.au>) or Mitre 10 Junior Landcare (<http://www.landcareonline.com.au>).

2.a. What do the birds require?

While the amount and type might vary greatly, all birds need food and water, shelter and a place to nest, whether that is a dense thicket, tall tree or hollow. Most of these requirements can be met by the availability of suitable vegetation. In most cases locally native vegetation is best for birds, although exotic vegetation can also be important and should not be automatically removed.

Because urban habitats are so fragmented, one garden will not be large enough to provide all of the requirements that a bird will need. However, each garden is vital in forming the web of habitat that birds use.

2.b. What and how to plant?

- *Assess the current vegetation:* Most vegetation can provide habitat for birds. Before removing any vegetation, whether exotic plants, weeds or otherwise, be sure to observe usage by birds.
- *Wherever possible do not remove vegetation immediately:* instead wait until new vegetation establishes (produces flowers and/or fruit). Some weeds, such as Lantana in NSW, are popular with birds and provide important habitat so their removal should be carefully planned and staged. If removing weeds or undesirable plants, remove only small patches of vegetation at a time and replace it immediately with new plantings. Be aware that it can take years for new vegetation to establish so patience is important. However many birds may abandon the garden, or be predated upon, if all or large portions of the intact vegetation is removed too quickly.



- *What to plant – species:* We recommend local native vegetation be planted grown from locally collected seed. Such plants are available from council, community and specialist nurseries, who can also help you with plant lists. This vegetation was traditionally used by birds in the area and is best suited to the conditions of the site. Once established, many Australian native plants are also drought tolerant. Use a variety of different species throughout the planting rather than a single, or select few plants. Plant clumps of 5-7 plants of the same species together so there is enough of the resource (food or shelter) available to be used by the birds. Numerous groupings or thickets of different plant species is also better for overall aesthetics and design. Gardens that contain a broad range of plant species, are more likely to support a broad range of bird species.
- *What to plant – structure:* The key is to create structural diversity – so lots of plants and lots of different layers. Having a mix of trees, shrubs of varying heights, grasses and ground covers will maximise the numbers of birds using a site. Gardens do not have to have trees to attract birds, therefore if space is an issue a garden consisting of shrubs and grasses can still be effective. Retaining patches of open grass is also important for some birds such as the parrots and finches to forage on.
- Gardens with tall trees and grass but without shrubs are more likely to have large and aggressive birds in them like Noisy Miners and Pied Currawongs. Restoring this shrub layer is key for providing a habitat that small birds can use.
- *How to plant:* In areas where the children's recreation must be balanced with potential bird habitat, garden beds can be used. These should be as large, with as little fragmentation, as possible. By utilising perhaps up to a quarter of the area, then little space is lost. Alternatively, beds should be placed close to each other so birds can move easily between them. If there is public concern about shrubs concealing anti-social activity, shrubs in a dense block can easily be avoided and do not have to be tall. Paths can also be made through the gardens to give people easy access for monitoring.
- Hybrid grevilleas should also be avoided as they provide food for Noisy Miners and other large aggressive honeyeaters. Instead use local native flowering plants that have small flowers that small honeyeaters can access but large ones cannot.
- *Maintenance:* Maintaining these types of garden beds is much less time consuming than mowing vast areas of lawn. Pruning is very quick and rarely has to be done, heavily mulching the beds reduces the need to weed and also provides a source of insects for insectivores and mowing can simply occur around the beds. Creating beds with edges (rectangular or square), makes mowing around them more efficient.



- *Native plants and gardens do not need to look messy:* Small birds like dense shrubs. If a more formal and neater garden is required it can be created by the use of pruning to shape these shrubs. Pruning also encourages a much denser growth pattern, which provides good protection for small birds. Therefore there is a wide variety of gardens that can attract birds, from what are considered typical 'native' gardens filled with native shrubs and trees without lawn through to pruned and trimmed neat gardens consisting of shrubs and open lawn space.



Photograph: Pruning of native shrubs can help create a neater and tidy looking garden that can still provide good bird habitat. This garden on the NSW Southern Highlands uses garden beds but also has areas of open lawn space. Photographer: Kate Ravich.



2.c. Requirements of different birds

Bird Type	Food Source	Habitat Preference
Large Nectarivores (nectar feeders) Honeyeaters and some parrots e.g. Noisy Miners, Red and Little Wattlebirds, Rainbow and Scaly-breasted Lorikeets	<i>Banksia</i> , <i>Callistemon</i> (Bottlebrush), <i>Eucalyptus</i> , <i>Grevillea</i> , <i>Hakea</i> , <i>Melaleuca</i> (Paperbark)	Shrubs and trees for foraging, perching and nesting Some require hollows for nesting
Small Nectarivores Honeyeaters e.g. Eastern Spinebill, New Holland Honeyeater, Brown Honeyeater	<i>Banksia</i> , <i>Callistemon</i> (Bottlebrush), <i>Eucalyptus</i> , <i>Grevillea</i> , <i>Hakea</i> , <i>Melaleuca</i> (Paperbark), <i>Epacris</i> , <i>Correa</i>	Spend most time foraging and perching in shrubs but also use trees. Generally nest in dense shrubs
Granivores (Seed Eaters) Parrots, finches and pigeons e.g. Eastern Rosella, Pale-headed Rosella, Galah, Sulphur-Crested Cockatoo, Common Bronzewing, Red-Browed Finch, Double-Barred Finch, Chestnut-breasted Manikin	Trees and shrubs: <i>Acacia</i> (wattle), <i>Casuarina</i> (she-oak), <i>Leptospermum</i> (tea-tree) Grasses: <i>Lomandra</i> , <i>Themeda</i> , <i>Poa</i>	Utilise shrubs and trees for perching, nesting and foraging but also forage on mature grasses
Frugivores (fruit eaters) Pigeons and cuckoos e.g. Wonga Pigeon, Common Koel, Silvereye, Satin Bowerbird	<i>Ficus</i> (figs), <i>Syzygium</i> (Lillipillies), <i>Eleocarpus</i> (Quandong)	Shrubs and trees important habitat
Insectivores e.g. Superb Fairy-wren, Eastern Yellow Robin, Spotted and Striated Pardalotes, Willie Wagtail	Insects and other invertebrates either on the bark and foliage of shrubs and trees or on the ground	Dense shrubs important for protection and nest sites as well as some open areas for foraging
Carnivores (Meat Eaters) e.g. All species of Currawongs, Laughing Kookaburra, Grey and Pied Butcherbirds, Powerful Owl, Black-shouldered Kite, Peregrine Falcon	Other birds, reptiles, frogs, mammals, invertebrates	Tall trees for perching, roosting and nesting. Some require hollows for nesting



2.d. What else can you do?

There are a great number of other factors that can encourage, or discourage birds from your garden. We would encourage you to:

- *Avoid feeding birds:* The birds we feed are usually those that do not need our help such as Rainbow Lorikeets, Pied Currawongs or Australian Magpies or introduced birds like the Common Myna, Spotted Turtle-dove or House Sparrow. Some of these birds can be aggressive or predatory on smaller native birds and we may be increasing their numbers. Many of the foods we provide especially fatty meat, bread and honey/water mixes are also very bad for birds and encouraging huge numbers of birds to congregate in a small area can spread disease amongst a population.
- Children eating recess and lunch outside can either inadvertently or on purpose feed birds such as Common Mynas, Australia White Ibis or Silver Gulls. These birds will also take food from rubbish bins. Children should be educated about the issues associated with feeding birds such as increasing aggressive bird numbers, poor quality diet and disease spreading. Lids should be placed on bins to stop birds accessing rubbish.
- **A garden that provides natural food for birds such as one with native grasses to provide seed, mulch to encourage insects and small-flowering locally native shrubs to feed honeyeaters is much better for our whole bird community than one that feeds only a few potentially problem birds.**
- *Provide a bird bath:* Most birds need to locate water and in times of drought many birds are more likely to come into gardens in search of it. Bird baths should :
 - Be clean and scrubbed daily with water. Soap or detergent should not be used.
 - Be placed in dappled shade either by suspending from a tree or using a pedestal bath
 - Be relatively exposed so birds can view with safety but
 - Have shrubs nearby that the birds can retreat to if threatened
- *Build a nest box:* Natural hollows are used by many different types of birds like parrots, kookaburras and pardalotes. However natural hollows are in short supply as once a tree is old enough and large enough to develop hollows, it is often considered dangerous. Nest boxes may be a viable alternative to these hollows and are a great way to observe birds in all their life stages in your garden. Take the following tips:



- Different birds require different shaped boxes. See this website; <http://www.birdsaustralia.com.au/infosheets/nestbox.html> for nest box dimensions for a range of birds and the heights at which they must be placed.
- Face the nest-box away from prevailing winds. This usually means they should face north-east and place them out of the direct midday sun. Also ensure the box is waterproof and drill drainage holes in the bottom.
- Place tree-guards or exclusion collars around branches around the nest box to stop cats and rats reaching the box.
- Secure mesh on the inside from the opening to the floor. This gives the baby birds something to grip onto when they are ready to climb out of the nest.
- Be aware of invasion! Feral honeybees as well as introduced birds like the Common Myna and Common Starling will often try and set up home in a nest box. Make sure you have easy access to your nest box and can destroy honeybee nests or remove the nesting material and eggs of introduced birds.
- Monitor your nest box. This provides an exciting activity for school children to take part in. Record usage, breeding success or failure, predation or aggression by introduced birds. Building up a data set over seasons and eventually over years provides invaluable information on the breeding success of native birds in suburbia. This can be submitted to your local bird club, local council or Birds Australia who will gladly accept data.

