



Increasing Biodiversity

How to Attract Wildlife to Your Garden

Residents of Alice Springs are fortunate to live in such a unique region with undeveloped landscapes on our doorstep, threatened species such as the black-footed rock wallaby in our backyard, and a host of rare plants that set down their roots in central Australia. Alice Springs gardens support a huge variety of insects, which have a hugely important role in pollinating flowers, breaking down nutrients in the soil and providing a food source for other animals in the food web. The range of native birds in central Australian gardens is also high, with residents commonly observing Australian Ringnecks (*Barnardius zonarius*), White-Plumed Honeyeaters (*Lichenostomus penicillatus*) and Western Bowerbirds (*Ptilonorhynchus guttatus*). Pet-free yards tend to possess a huge range of reptiles, such as geckos, skinks, dragons and snakes. While, very few of the small mammals persist around human habitation, the Sandy Inland Mouse (*Pseudomys hermannsburgensis*) is occasionally seen visiting some of the blocks that contain diverse habitats. Macropods often frequent properties with a decent amount of green pickings, especially those that back onto the ranges. Alice Springs also has a diverse plant-life, consisting of 27 recognised vegetation types (thanks to some diligent mapping by Albrecht and Pitts, 2004) and 680 distinct plant species.

Despite the extensive list of amazing wildlife in the region, there is a seemingly never-ending list of factors putting pressure on the environment and threatening biodiversity. Introduced weeds such as Buffel Grass (*Cenchrus ciliaris*) can impact biodiversity by favouring more frequent and hotter fires and outcompeting native grasses or forbs for space, sunlight and nutrients. High on the threat list are feral cats (*Felis catus*), which can impact biodiversity by increasing the predation pressure on small to medium-sized native mammals. Even the seemingly harmless Spotted Turtle-dove (*Spilopelia chinensis*) can out-compete native birds for food and nesting resources. Humans too, have their place in the system of change. A horde of animals have joined the threatened species list in the last few decades.

Many areas retain high biodiversity values, and even the smallest of blocks can be species-rich – and it's worth preserving! There are a number of positive actions that landholders across Alice Springs can take to preserve biodiversity.

- Planting local native plants will provide food and shelter for native birds, mammals and reptiles, while sustaining natural interactions with other plants.
- Creating multiple layers of habitat will attract a diversity of wildlife – from the top of tall trees, to shrubs, herbs and ground cover.
- Controlling weeds or other invasive plants will allow natives to naturally re-seed and establish.
- Allowing native mistletoe to establish in low numbers will provide nectar and berries for a range of birds and insects.
- Avoid using chemicals for weed control, or choose a bio-friendly alternative.
- Retaining dead trees, fallen logs, rocks and leaf litter will provide habitat for a range of fauna.
- Providing a water source in a predator-free safe place will attract wildlife such as frogs and birds.
- Consider responsible pet ownership to minimise their impact on wildlife.
- Minimise water use and consider installing a rainwater tank.
- Take up a feral animal trapping program to reduce the impact that ferals have on the system.
- Maintain fire-breaks to manage the frequency that wildfire burns the habitat on your block.

If you are looking to attract wildlife of a specific kind, below are some more hints to help you along the way.

Invertebrates

Insects and other invertebrates are integral components of the ecosystem, acting as pollinators and nutrient recyclers. While it is easy to get carried away with the huge role that introduced European Honeybees (*Apis mellifera*) play in pollinating crops, there are many more species of native solitary bees (harmless and non-aggressive) that play a very active role in pollinating flowers. Not to mention the ants, butterflies, beetles and other invertebrates that are responsible for pollination. Attracting these critters not only increases biodiversity in your yard, but they will help to keep unwanted insects away.

If you are looking to attract invertebrates to your yard, you would be wise to provide pollen and nectar for as much of the year as you can. This means planting a diversity of flowering native plants, which will produce nectar and provide the native insects with a ready source of carbohydrates necessary to fuel their flight. Not every species of flowering plant will have the same flowering season, so aiming for a diversity of plants will increase the likelihood of providing a nectar source year-round. You can research planting guides to select specifically for those that fill the gaps in the flowering calendar.

To encourage insects to breed on your property and reside during the cooler months, you may wish to get creative and make an insect hotel. Many insects hunker down when it's raining and lay eggs in safe, dry places. But many town yards are kept tidy and the lack of debris can mean that there are fewer places for insects to take refuge and lay eggs. An insect hotel can be the key to giving the native insects a helping hand. You can learn more about how to build an insect hotel in the September 2016 Newsletter. A more natural way to provide shelter is to leave fallen timber, leaf litter and peeling bark in place – which provides a substrate on which to lay eggs and a layer under which an insect can take refuge. Laying wood chips in urban gardens can help to provide a ground cover for invertebrate habitat.

Butterflies lay their eggs on trees where ants live, as the ants will help to protect the eggs and caterpillars from unwanted predators. Once the caterpillars have emerged, they will feed on green leafy plants before forming a chrysalis and emerging as butterflies. Planting specific local native plants that are known food sources will help to attract the butterflies to the garden before laying their eggs and provide food for the caterpillars.

Invertebrates are sensitive to chemicals used in the garden, so consider using natural remedies in the garden to protect the beneficial insects.

Amphibians

Central Australian frogs are known for their resilience! They are capable of surviving long, hot, summers with little surface water. There are two main lineages of frogs in Central Australia, the Family Hylidae (or tree frogs) and the Family Limnodynastidae (the Australian ground frogs). The tree frogs are unable to burrow and climb into humid microhabitats such as crevices and tree hollows close to permanent water, while the ground frogs spend most of their life underground to avoid dehydration, and emerge only for short periods after rains.

Despite the ability for central Australian frogs to seek out a water supply, providing a pond will be essential for the tadpoles following a big rain event. The burrowing frogs that emerge will seek a place to lay their eggs and a well-prepared pond can provide food for the tadpoles in the form of algae, as well as attract a range of aquatic invertebrates. You can plant some native aquatic plants to keep the water clean and prevent it from going stagnant.

If installing a pond, be sure to consider safety of pets and small children (you may wish to fence it off, depending on the size of the pond).

Reptiles

Many reptiles spend their time on the ground but may climb trees to search for food or find safe resting places under layers of bark or in tree hollows. If you have old trees with bark that peels off, avoid clearing it up, as it will provide protection to small skinks, geckos and other reptiles. If your property lacks the larger shedding trees, you may wish to consider laying some wood chip or mulch around garden areas to offer a safe haven for small

reptiles, or bring in a hollow log or two from a nearby area. Planting plenty of low-lying ground covers and grasses will help the reptiles to escape from predators when required.

As reptiles are cold-blooded, many will climb onto a warm rock to increase their body temperature and become active. Ensuring your garden has some nice rocky sunning positions will help to attract wildlife of the scaly kind.

Provision of a shallow water bath or pond will ensure that thirsty reptiles such as Perentie and Monitors have a place to visit. Planting nectar and berry-producing plants will attract insects, which in turn act as a food source for many reptiles. Some of the reptiles have also been known to eat the berries of plants, such as Ruby Saltbush (*Enchylaena tomentosa*), themselves.

Birds

Birds, more than any other group of animal, depend on trees for shelter, perching, nesting and food. Many trees also rely on the birds to assist with seed dispersal, pollination and insect control. By planting out your garden with a range of native species that provide nectar, seeds and fruit, you will find that the birds should come in flocks! Many nectar-producing plants will also attract insects, which in turn provide a food source for insectivorous birds.

Planting some of the cultivated non-local native flowering plants may attract some of the more aggressive birds, such as the Yellow-throated Miner, and therefore you may wish to stick to the local native plants.

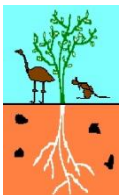
Plants will not only double as a food source, but will also act as shelter and cover for the more shy species. Providing cover plants next to food plants will help to ensure that all bases are covered.

Planting a variety of levels will also help to increase the bird diversity in your garden. Grasses around the edges of the garden space will attract species of ground foragers, such as finches and wrens, as well as birds that chew on grass roots, such as Galahs. A level of small shrubs is required for species of nectar-feeders and insectivores. Larger trees are preferred by species that prey on small reptiles, like Kingfishers and Crows, as well as seed-eaters, such as Cockatoos. Birds of prey prefer to perch in tall trees that lack a little canopy and open clearings in which to seek out their food. Several other species will hawk (catch on the wing) for insects and will do so from a range of canopy heights.

A water source will also help to attract many species of bird. Ensure that steep-sided or slippery bird baths have a large rock or two or a large branch leaning in from one side. This is to ensure that if a bird is to slip in the pond, it has a sturdy item to grab hold of and escape. Placing the water source close to a protective shrub will encourage even the shyest of birds to visit the bath.

Mammals

A water source is crucial for local native mammals, so providing a pond or water bath will be your best bet to attracting local mammals, such as kangaroos and wallabies. Removing Buffel Grass and allowing local native grasses to flourish will also help to attract grazing herbivores.



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