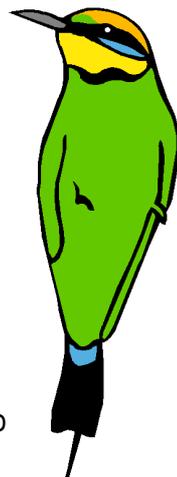


GARDEN FOR WILDLIFE

Trees Under Stress



Trees around Alice Springs are struggling! A lot are looking dry, stressed and lacking in vigour due to the continued lack of rain. Trees which are stressed are more likely to suffer from structural defects, loss of limbs or catastrophic trunk failure. The recent storm revealed the weaknesses in many trees in our streets and backyards.

Trees growing in urban areas typically live much shorter lives than trees growing in natural settings. This may be due to stress, and stressed trees, having weakened defence mechanisms, are prone to pest and disease attack. These symptoms are commonly treated as causes, and energy is spent treating these as they occur. However these propensities are more often symptoms of larger systemic problems due to the trees location, environmental conditions and inappropriate watering.

What makes urban sites and yards such stressful places to grow?

- Restricted root space- Building foundations, streets, driveways, and other obstacles limit the expansion of tree roots and significantly reduce the minerals available to the tree.
- Compacted soil- Urban soils are usually compacted from human and building activity, and this creates stress for a tree. Soils can become difficult for roots to penetrate, and compacted soils hold much less water and oxygen, which are critical for tree health.
- Competition- Many yards have a dense layer of lawn that surrounds a tree. Grass competes for minerals and water, which reduces their availability to other plants.

What does a stressed tree look like?

Dry, wilting leaves, reduced foliage and limb loss are all characteristic of stressed trees. The uppermost small branches of trees and shrubs may die. Gradually this may extend to most of the crown. Intermittently, during wet periods, there may be a recovery of vegetation, leading to clumps of healthy foliage amidst dead limbs.

Severe infestations of mistletoe are often associated with stressed or ageing plants or disrupted plant communities. Trees heavily infested with mistletoe may be killed directly by them; but probably more often they die as a result of a combination of stresses, one of which is hogging of water and nutrients from the tree by the mistletoe.



Photo: Alice Springs Desert Park.

Healthy looking River Red Gum

How can I contribute to the health of trees in my garden?

In order to encourage a healthy tree, you need to create a more ecologically healthy community where stress is reduced. When trees are younger, they are more capable of coping with the stress of pests and diseases, however as they grow older the mechanisms they have to fight these incidences weaken.

Ideas include:

- Remove lawn- Instead of lawn, which provides competition for trees, add several layers of mulch within the dripline of the tree. This reduces competition, keeps soil cooler and retains moisture. Just remember to keep the base or trunk of the tree clear of mulch to prevent collar rot.
- Allowing leaf litter to build up will serve the same purpose. An added benefit is that ground cover such as leaves, branches and logs will provide habitat for small reptiles and invertebrates.
- Minimise fertiliser and chemical use within the dripline of trees.
- Consider planting slower growing trees- slower growing trees will outlive trees that grow faster, especially in situations where space and resources are limited, such as backyards. This does depend on the purpose of the trees you're planting, and how long you plan on being at your current location! Sometimes fast growing trees will provide quick shade or a barrier.
- Remove excess mistletoe. Two or three plants are fine- they attract birds and are a natural part of a functioning ecosystem. More could increase the stress placed on the tree.
- Develop healthy watering patterns. Neither over or under water. For established trees, overnight deep watering of native trees once or twice during summer may be sufficient. For established plants under 3 years, deep watering every 2-4 weeks will suffice.

When planting seedlings, there are a number of things you can do to encourage strong, healthy growth in your trees as they age.

- Select healthy-looking plants, which are free from pests and diseases and have roots which are evenly dispersed throughout the pot.
- Dig a decent-sized hole for easier root growth. It should be at least twice the width and depth of your pot. In difficult soils, such as clayey soils which are hard digging, make the wall of the hole irregular with plenty of sharp recesses so roots won't grow in circles within the hole.
- Plant your tree carefully- make sure the plant is straight and the soil surface is at the same level it was in the pot.
- Pre-water your seedling and planting hole, then water it thoroughly once planted. Create a small bowl around your plant so the water will pool around it.
- Irrigate regularly (but not too regularly!) until the seedling is established. Watering in the first two weeks should be regular and deep. Gradually reduce the frequency of watering but maintain the deep soakings. This encourages deep root growth and greater drought tolerance. Watering too frequently can cause plants to develop shallow root systems.

It is inevitable that trees in urban settings will be under different stresses than trees occurring in their natural environment. It is also inevitable that they are stressed during these dry times, there are actions you can take to alleviate this. Starting from pre-planting, right through to adulthood, you can provide conditions so that trees are stronger and more capable of coping with harsh environmental conditions. It must be remembered that if very large trees are looking unwell, it could just be that they're reaching the end of their natural life!

Greening Australia, 2007. *Native Plants for Central Australian Gardens*, Greening Australia

Power and Water Corporation, *Creating a Waterwise Garden in Central Australia*.

Platt, S. 1993. 'Mistletoe and Wildlife- a positive view of a parasite', *Land for Wildlife Notes*, Aug. 1993.

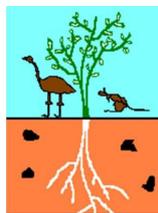
Platt, S. 1999. 'Dieback lessons: learning how to manage sustainably', *Land for Wildlife Notes*, July 1999.

Garden for Wildlife now has 98 members! Our 100th member will receive a copy of Greening Australia's '*Native Plants for Central Australian Gardens*' and if their joining resulted from a recommendation by one of our existing members, the recommending member will get a free copy of '*Frogs and Reptiles of Alice Springs*' by Nic Gambold and Deborah Metters. Encourage your neighbours and friends to learn more about conservation on private lands by applying for membership.

One Garden for Wildlife member recently found an echidna in their backyard! Please let us know what wildlife you sight in your block as your Garden for Wildlife develops.

We would like to run more regular workshops adapted to the specific needs of our Garden for Wildlife members. If there's a topic you'd like to see covered, please email Danielle lfw@lowecol.com.au or call (08) 89 555 222

**PowerWater**




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