



Guide to
Healthy Trees

Al and Bri Seaton

Front cover image:

This magnificent tree is located on our property in Mansfield, Victoria. A few years ago it was suffering severely from drought, erosion and compaction from horses. To save the tree we fenced it off from stock, mulched heavily and watered it with our grey water. Thankfully all our time and TLC paid off and our beautiful tree now stands strong and healthy.

Foreward

It is far simpler and more cost effective to prevent tree problems than deal with a problem tree – that’s why the team at High Country Tree Services have put together this Guide to Healthy Trees to help you identify the danger signs and avoid any further risk to people, property – or trees!

Risk prevention starts with species selection, ensuring that proposed use of an area is taken into account when selecting trees. To avoid problems developing as the tree grows, we recommend formative pruning to shape young trees. Established trees require regular checks for danger signs such as deadwood, mistletoe and hangers. And of course fencing and mulching around the base of trees will retain moisture in the soil and help prevent damage from drought or livestock.

We hope the Guide to Healthy Trees is useful in maintaining a healthy environment for you and your property.

Best wishes,

Al and Bri Seaton



High Country Tree Services

Lot 3 Crosby's Lane, Mansfield VIC 3722

Phone: (03) 5775 1935

Mobile: 0438 751 932

Email: info@highcountrytrees.com.au

Web: www.highcountrytrees.com.au

What are the danger signs?

Deadwood and dieback

Many trees contain deadwood throughout their canopies. Different species of trees have more deadwood than others, depending on age and condition of the tree. Deadwood is a sign of stress, which may be caused by pest, disease, drought, compaction, excavation, lack of oxygen to root system, root disturbance, vandalism or age.

However, while deadwood does indicate the amount of stress the tree is under, removal is not beneficial. Removal of deadwood is recommended only if assets (property, people, fencing, cars, services – above and below ground) are within the ‘drop zone’.

We recommend monitoring of trees following dead wood removal – quick reappearance of dead wood indicates the tree is suffering.

Figure 1
Large sections of deadwood are a danger in these school grounds.



Hangers

Hangers are known as ‘widow makers’ for good reason!

Hangers are branches that snap off in a storm, or from excessive end weight, and have not fully detached from the tree. Hangers can be very hard to see until after they have died off and their leaves have changed colour.

If a hanger is spotted in a tree, it should be attended to as soon as possible. Failure time of a hanger cannot be determined and a lot of care must be taken when attempting to remove one.

Be warned – ladders and chainsaws mix like oil and water! So call a professional before you climb a tree with a lethal weapon.



Figure 2
Hangers are easier to see once the branch has died off.

Mistletoe

Mistletoe is a parasite that is laid in trees via bird droppings.

The parasite taps into the food supply of the tree (xylem and phloem vessels) cutting off supply to the foliage and killing off branches. Eventually the entire tree dies.

Many trees that are covered in mistletoe can be saved. A few hours of mistletoe removal by professionals may save an irreplaceable 150-year old tree.

Figure 3
Large clump of
Mistletoe in a
Red Gum.



Multi barrels

Many trees require formative pruning at a young age. Twin barrel, co-dominant or bifurcation is where there are two or more stems of a tree competing to be the dominant trunk, resulting in a poorly structured tree.

Every year the tree grows an extra layer of bark, which causes the trunks to push against each other. Year after year this occurs until eventually one of the trunks fails – and not always the one you expect!

If you do have a multi barrel tree have it checked by a qualified arborist for advice about how best to avoid further risk or damage.



Figure 4

Twin barrel canopy in Manna Gum.

Evidence of branch failure caused by excessive end weight.

Included bark

Shedding bark and twigs from the tree can get caught up in tight crotches or branch unions. If this bark, twigs and leaf litter is not able to escape, it becomes trapped as the tree builds another layer of bark in its seasonal growth – this is called included bark. This rotting debris becomes part of the tree and causes a weak section in the tree's structure.

Included bark is likely to occur in trees with twin barrels or tight branch unions, and is very common in the canopies of Pin Oak (*Quercus palustris*).

Figure 5
Build up of
included bark
in Bifurcation



Fungal fruiting bodies

Fungal spores are in the atmosphere all the time. If a tree has a wound in its trunk or scaffold, then infection may get into the organs of the tree and cause the tree to begin rotting from the inside.

There isn't any way of seeing internal rot behind the bark, however if you see a large (usually) white bracket hanging off the side of the tree, it is almost 100% certain that the tree is rotting and its stability cannot be guaranteed.

If you notice a tree with an unusual growth off the side of the trunk or branch, you should arrange for inspection by a qualified arborist.



Figure 6
Fungal fruiting body or bracket fungi present in this highly stressed bush fire affected Peppermint

Hollows

Either in the base of the tree or throughout the canopy, hollows can be hazardous but also beneficial to the environment.

While hollow trees may not be as structurally sound as solid trees, they can be just as healthy. In addition, hollows are very beneficial to native habitat such as possums, birds, bats and insects.

While people generally believe that a hollow tree should be removed, at High Country Tree Services we believe that if the tree isn't going to injure or damage anything if it fails (i.e. if it is well away from people and assets) then let nature take its course.

Figure 7
Large hollow
in the base of
a mature Red
Gum



Losing limbs

Many people are concerned that Red Gums (*Eucalyptus camaldulensis*) and Red Box (*Eucalyptus polyanthemus*) drop limbs. The fact is that all trees drop limbs, the same way they drop leaves – it's a fact of life.

However damage from dropping limbs can be prevented. Limbs become heavier when they are in full foliage or have fruit, seeds, flowers, animals, snow or rain on them. Limbs in high traffic areas can be weight reduced to prevent snapping or tearing. This work requires a high degree of technical competence, so please contact a qualified arborist.



Figure 8 High Country Tree Services goes out on a limb to prevent damage to property by a fallen branch.

Root damage

It's easier to see tree damage from the ground up. If you notice dying sections or unusual leans on trees, root damage may be the cause.

The roots of a tree are as important as leaves for tree health. Roots require oxygen and water. If soils are compacted or water logged for a long period the tree is starved of oxygen and microorganism activity.

Root damage can be caused by excavation and compaction from vehicles or stock, introduction of fill, mowing of surface roots, soil removal, soil contamination and flooding.

Preventing root damage can be as simple as fencing off trees from stock and vehicles, and more careful maintenance particularly within the drip line of the tree.

Figure 9
Tyre tracks clearly show that excavation was the source of this root damage.



Going to great heights for *you*



The team at High Country Tree Services hopes you find this Guide to Healthy Trees helpful in the early identification of problems.

If you notice a problem, High Country Tree Services recommends calling a qualified arborist to advise you on the best course of action for you, your tree and surrounding assets.

Tree work requires a high degree of technical competence. High Country Tree Services is committed to providing an efficient and environmentally sensitive service you can trust.

The team at High Country Tree Services will go to great heights to ensure your trees are healthy, balanced and aesthetically pleasing, at all times providing the best equipment, operators and climbers for the job.

High Country Tree Services offers a range of tree works from tree pruning and removal, to stump grinding, wood splitting, chipping of branches and delivery of mulch. All tree works are carried out to Australian Standard AS4373: Pruning of Amenity Trees (2007).

The company has \$20million in Public Liability Insurance, more qualified arborists and a greater range of equipment than any other tree services operator in North East Victoria.

Call now for a FREE quotation.



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