

Maturing Trees

Managing ageing trees in the urban context

Recent articles in the Tree Logic newsletter and seminar topics have discussed management difficulties associated with an ageing urban tree population (Newsletter 15- Feb 2010- Canberra Urban Forest Renewal Project.)

Many arborists are facing the difficulties of managing ageing trees in the urban context. Many of these ageing specimens were originally planted into larger open sites with natural soils and during a period when watering regimes were abundant and bordering on frivolous when we think of the species being planted and the prevailing climate.

Tree establishment in the modern urban setting is confronted with a raft of problems including limited space and soil volume, soil compaction, water limitations, hard and reflective surfaces, infrastructure, vandalism, drought and the associated costs of managing these constraints. With this in mind there is a strong incentive to retain ageing trees for as long as possible in a safe and aesthetically pleasing condition.

Ways to do this may include;

- Adjusting the landscape use to remove potential targets within the fall zone of an old tree.
- An intensive regime of watering and soil amelioration in conjunction with crown maintenance pruning. This could include reduction pruning, thinning, deadwood removal, weight reduction and cabling if necessary.
- Aggressive crown reduction pruning or 'Pollarding'.
- Habitat pruning.
- Permitting and managing suckering regrowth or stumps to re-sprout.

The appropriate treatment must be based on an understanding of the species, an assessment of the condition of the tree and the potential response that the particular specimen may have to a nominated management strategy.

This article is looking at the practice of re-logging trees to re-introduce a regime of 'pollarding'.

The practice of pollarding ideally begins on younger vigorous trees with reduction pruning of lateral branches on the main scaffold form of the tree to promote a vigorous response of new shoots from the wound wood developed at the pruning sites. The shoots are then pruned back regularly at 1-3 year intervals to just above the point of origin ensuring the pollard head is not injured.

The Australian Standard (AS 4373-2007) - Pruning of Amenity trees discusses pollarding and that it should not be performed on mature trees that have not been pollarded previously.

We are starting to see examples where tree managers are adopting less orthodox methods in an attempt to extend the useful life of ageing trees and mitigate the risk potential associated with limb shedding. One method involves re-logging some of the older previously lopped Plane trees (*Platanus xacerifolia*) hopefully with a commitment to managing the regrowth in a similar fashion to pollarding.

This approach may be appropriate with this species because Plane trees can have a strong callus and wound-wood response, often occluding large wounds. The practice may be effective where the main scaffold structure remains intact and regrowth is confined to the primary and secondary limbs and where the tree displays good vigour and is likely to respond with vigorous regrowth. The regrowth would be likely to be more proportionate to the host limb and can be managed with target pruning principles as they develop, more so than if the regrowth emanates from the stem of a lopped tree.

If the tree does not display good vigour, the dramatic loss of foliage may induce further decline symptoms and even premature death because the trees' energy source has effectively been removed.

The management of these trees treated in this way must remain vigilant to what is continuing to occur beneath the callus and wound wood as decay will continue to advance into the scaffold structure.

This method may be considered in some of the ageing Elms and Oaks that may have suffered large scale failures but only where the main scaffold structure is reasonably intact and tree health is likely to sustain vigorous regrowth and wound wood response. This may be undertaken as a form of Crown Restoration but there must be a commitment to the ongoing management of the regrowth for the life of the tree.

Such work cannot be a set and forget option.

This principle is generally unsuitable for our larger native eucalypts and exotic conifers. It is not a safe option to lop the trunks of such trees because this generally removes the scaffold structure and the resultant regrowth that is produced from the trunks is poorly attached and the attachment of the regrowth is further compromised by the progression of trunk decay down from the wound site.

Any treatment that utilises an aggressive reduction pruning regime must be undertaken only where there is a commitment of resources to an ongoing tree management strategy and ultimately a plan for the eventual removal and replacement of the subject trees because decline and death is inevitable.

The following photo catalogue demonstrates some of these points.



Photos 1 & 2. Example of a Plane tree that has been lopped and re-lopped. It shows the vigorous ability of the species to occlude wounds and graft or pleach branches.



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Some examples of mature Plane trees in urban Melbourne with a history of being lopped and with the cycle starting to be repeated.

Photo 3. A Plane tree re-lopped and responding with vigorous regrowth from the pruning sites (photo 4).

Photo 4. Wound wood is developed at the wound site (arrow) which may eventually occlude the wound.

Photo 5. A plane tree that may be a candidate for the practice where foliage density is reduced in the upper crown but the lower parts of the tree are producing new growth.



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Photo 6. An example of a declining Plane tree where the removal of the crown, the trees' energy source, was the last straw and the tree is now desiccated and almost dead.

Photo 7. An example of Dutch Elm with extensive crown dieback.

Photo 8. An example of reduction pruning of an adjacent Elm that has removed the deadwood and reduced the overall crown area in accordance with Australian Standard (AS 4373-2007) - Pruning of Amenity trees.

The practice of lopping is not suitable for all trees and the native eucalypts, especially, respond poorly to lopping. The outcomes associated with lopping include;

- Vigorous and elongated regrowth from around the wound site that is typically poorly attached, (refer opposite)
- Onset of decay at the lopping site that further weakens the union of the regrowth.
- A reduction in tree vigour due to loss of foliage.
- The tree can become more susceptible to decay and insect or borer attack in response to a reduction in vigour which in turn contributes to further health and structural deficiencies and decline.

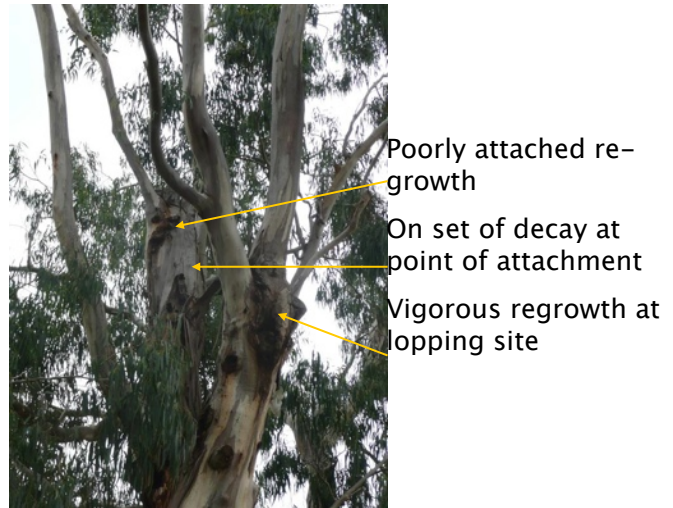


Photo 9. Typical responses to lopping of Eucalypt species.

When considering management of ageing trees it is critical that advice is sought from an arborist who can identify and understands the species, the potential response of various management options and can design an ongoing management plan that will also identify when the tree has exceeded its useful life and should be removed.

The necessity to adopt these unorthodox management strategies reflects an underlying problem associated the tree no longer being well suited to its current location due to altered site conditions. When considering replacement trees we must aim to select the right tree (species) for the right place.