

Burnt trees – Will they re-grow?

Whittlesea Bushfire Recovery fact sheet

The issue

After the recent bushfires, many trees have been left burnt and blackened in the Kinglake West, Humevale and Whittlesea areas. There have been many enquiries from landowners asking whether these trees will regrow or are simply dead. In some cases trees will not regrow due to the extreme fire intensity experienced in a number of areas. Generally, however, most trees, especially Eucalypts, are expected to regenerate in time as they have evolved adaptations to withstand bushfires.

The following are examples of the various adaptations some native plants have evolved to survive bushfires:

Epicormic buds

Trees with rough bark, such as Red Stringy Bark (*Eucalyptus macrorhyncha*) and Messmate (*Eucalyptus obliqua*) have epicormic buds (dormant growth buds) deep beneath the bark which are protected from fire. When the tree is burnt and the foliage removed, the epicormic buds are triggered into life and they start to grow. Once these buds sprout, the tree then begins to regrow all the lost foliage, and gradually recovers in time. The first few leaves to sprout from these epicormic buds may look very different to the leaves that were on the tree before it was burnt. These first few leaves are juvenile leaves and will soon be replaced by adult leaves which are often larger.

Lignotubers

Some other eucalypts regenerate from underground lignotubers which are large roots from which the tree can sprout new growth. Although the above-ground part of the tree may not survive being burnt, the lignotuber and root-system remains alive. These trees should be left alone as their removal will damage the lignotubers and may prevent the tree from successfully regrowing. In time, these trees will often develop multi-stem trunks and provide important habitat for local wildlife.

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Regrowth

Other plants such as Tree Ferns (*Cyathea australis* and *Dicksonia antarctica*) and Grass Trees (*Xanthorrhoea australis*) have also developed ingenious ways to withstand bushfires, including dense, fibrous trunks. These plants simply reshoot and recover quite quickly. Many local landowners have remarked that tree ferns located in gullies and along watercourses started to resprout only weeks after the fires.

Many indigenous plants, including Grass Trees, rely on fire to remove the build up of leaves and dead material. Once burnt, flower-spikes, which will develop numerous seeds, are often the first sign that the Grass Tree is alive.

Seed storage – crown

Other plants may not survive bushfires but have instead developed ways to ensure that their species will still persist into the future. A number of smooth barked eucalypt species, such as Mountain Ash (*Eucalyptus regnans*), rarely survive bushfires and have instead evolved other ways to regenerate following fire. Seeds stored in capsules (gum-nuts) in the tree canopy are released following fire, then germinate en-masse once conditions become favourable, ensuring the survival of the species.

Seed storage – soil

Wattle trees (*Acacia* species) have developed seeds with hard coats which are stored in the leaf litter and soil. Many of these seeds have been buried underground by ants busily building up food stores to feed their colonies. The heat of the fire cracks the seedcoats and triggers germination. Many properties in Kinglake West have experienced a carpet of tiny seedlings emerging from the blackened ground. In time, these seedlings will thin themselves out naturally and gradually replace the mid-storey vegetation, providing an important food source for local possums and birds as they recolonise bushfire affected areas.

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For more information on this and other land management issues, please contact Council's Sustainable Land Management Unit on 9217 2437 / 9217 2493 or sustainability@whittlesea.vic.gov.au