

MessageMatrix



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Voluntary buyback

The Victorian state government has confirmed the program of voluntary buyback of properties in areas of unacceptably high risk is almost finalised and will be operative by the next fire season. No details as yet though.

Fuel Reduction Burns

The DSE made the most of cool autumn weather to meet the increased target for fuel reduction burns set by the VBRC. There's been much smoke on the horizon. However, not everyone is happy. Grape growers have been disgruntled in some areas as the burns occurred before grapes were picked and smoke tainted grapes are worthless.

Cattle

After releasing 400 cattle into the Victorian high country in January, the state government has had to remove them again. The cattle were released as part of a scientific study into the impact grazing has on reducing bushfire risk. Following the release, the Federal government intervened, ordering their removal, after ruling the state government should have sought Federal approval. The Mountain Cattleman's association has stated the Federal ruling had nothing to do with the cattle's



removal, claiming the cows were brought down off the mountains because winter is coming.

Evaluation of Stage 1 of the trial is due to be released in July 2011



Powerlines

The taskforce established to advise on how to address the Victorian Bushfire Royal Commission (VBRC) recommendations on power lines in high risk areas has delayed their report release until

September. A major hurdle to the implementation of the Commission's recommendations is the cost of measures such as putting 30,000km of SWER lines underground.

The taskforce is considering alternative solutions, including cutting power to these high risk areas on fire ban days.

CFA survey

The CFA has undertaken a survey of 600 residents in 52 high bushfire risk towns. The survey asks residents to evaluate programs such as neighbourhood safer places, fire ratings, fire warnings, community meetings and the CFA's online home self-assessment tool. The report is expected in June.

Role reversal

PNG has donated \$500,000 to victims of the West Australian bushfire victims.

Kerridale

Last month was the 50th anniversary of the Kerridale fires in WA's Margaret River region. People's accounts of the fire can be read in the book by Robert Underwood "Tempered by Fire" (2010).

Japan

And no one needs to be told, Japan experienced a hugely devastating earthquake and tsunami in March. Donate. Donate. Donate,

Two new Terras

Terramatrix welcomed a new staff member this month. Lucy Tibbits (Amalie's sister) has joined us part time. She studied architecture at both RMIT and Melbourne University and in her other life runs a small architecture firm in Richmond. You can see some of her work at



www.tibbitsmerrill.com. She has two children, Charlotte is 12 and Ava 7.

And from Nancy...

After being 2 weeks overdue I finally went into spontaneous labour on Friday 15th April at about 5:30pm. I didn't want to go to the hospital as I knew it was early days,

however Nigel was keen to get going! I managed to delay him and we stayed home until listening to "we should go to hospital" got too much to bare. Things then progressed pretty quickly and Joseph James Cotton (named after our grandparents) entered the world at 01:07 on Saturday 16th April. Weighing 8lb 1oz and 52cm long. Joey is now 4 weeks old, he is a little treasure and we are loving our new life with him. (yes, that's him in the banner)

Fire Adaptive Plant Mechanisms

by Catherine Stephenson

This article is adapted from a passage in DSEs *Fire and Adaptive Management Report No. 87*: 'A literature review on the social, economic and environmental impacts of severe bushfires in south-eastern Australia', C. Stephenson, in press

Australian plants have become very good at surviving a bushfire, so much so that some species depend on it in order to produce the next generation. This article provides a brief description of the types of mechanisms plants use and the species that generally fall into these categories.

The five reproduction mechanisms that Australian plants may use when exposed to fire are storing seed in the soil, storing seed on the plant, re-sprouting through lignotuberous buds, spreading vegetatively through rhizomes or re-sprouting through epicormic buds (Gill, 1981). The first two are typically classified as seeders and the last three as sprouters.

Even though species with re-sprouting capabilities (i.e. from lignotubers, rhizomes or epicormic buds) use these as a means to recover from fire, they generally require the distribution of seeds for the ongoing survival of their species (Gill, 1997).



Soil-stored seed

Many leguminous pea species (Family:

Fabaceae) store their seeds in the soil and have a hard seed coat to protect from water and hungry creatures. In the presence of a bushfire, the heat generated may soften the seed just enough to stimulate germination (Gill, 1981). This feature is common amongst the wattles (*Acacia* spp.), parrot peas (*Dillwynia* spp.) and bush peas (*Pultenaea* spp.) (Auld, 1996), whose seeds can lie dormant in the soil many years before a fire passes through.

Canopy-stored seed

Storing seeds on the plant is a strategy used by a range of Australian natives, such as eucalypts (*Eucalyptus* spp.) (predominantly from higher rainfall areas), banksias (*Banksia* spp.), hakeas (*Hakea* spp.) and she-oaks (*Casuarina* spp.) (Attiwill and Leeper, 1987). Severe bushfires are needed to produce enough heat for the opening of their woody fruit and the subsequent release of seeds onto the nutrient rich ash bed below. Two iconic eucalypts that fall into this category are the Mountain Ash (*E. regnans*) and Alpine Ash (*E. delegatensis*). In the event of a severe fire, the parent trees are killed and thousands of seeds fall into the ash bed from which a dense stand of seedlings grow (tens of thousands per hectare). These seedlings thin out over time to produce the next even-aged forest (Attiwill and Leeper, 1987). Many people will know of

mountainous forests described after a major fire, for example the 1939 Ash or 1983 Ash. In some cases however, the heat generated from a less severe bushfire is able to produce enough heat to initiate the regeneration process, but is not large enough as to become a crown fire and kill the older stand (Lindenmayer *et al.*, 2000). In this circumstance, a multi-aged Ash forest is created.

Lignotubers

Lignotubers are a starchy swelling of the root located just below or above the soil surface (depending on the species). Common species that possess lignotubers are mallee eucalypts (Gill, 1997), Jarrah (*E. marginata*), Snow Gums (*E. pauciflora*) and members of the banksia genera. As well as storing carbohydrates and nutrients, these structures contain numerous buds that re-sprout in the event that a severe fire kills the above ground vegetation (Gill, 1981).

Rhizomes

Rhizomes are underground stems that send up new shoots in the event of a bushfire. While this technique is rare amongst southern species of eucalypts, it is common amongst eucalypts in tropical savanna woodlands (Gill, 1997).

Epicormics

Epicormic, or dormant, buds are another strategy that allows plants to recover quickly after a severe fire. These buds are located just under the bark along the trunk and branches and are stimulated in the event fire kills the apical (leading) stem (Attiwill and Leeper, 1987), generating a profusion of small branches. Like the dense stand of eucalypt ash seedlings, these branches thin out over time. The use of epicormic buds is widespread among stringybark and box eucalypts in particular.

References

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