

## **Fuel reduction burning & bushfire risk reduction – Peter Kanowski, 13/02/09**

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### **Principles**

- Fuel reduction burning is a fundamentally important element of bushfire risk reduction strategies. It is the only cost effective way to reduce fuel across large areas of the landscape, and it also provides areas of reduced fuel load for firefighting.
- Other important elements of bushfire risk reduction strategies comprise: community education and awareness, and individual and community preparedness; residential planning and housing design; firefighting services and systems; and weather forecasting and early warning systems.
- Fuel reduction burning is a necessary component of bushfire risk reduction strategies on all land tenures – indigenous, public (national parks, state forests, other crown land) and private.
- Fuel reduction can be carried out at a range of scales. To be most effective, it needs to be used strategically, as part of an overall bushfire risk management strategy.
- Fuel reduction burning is not appropriate in some fire-sensitive forest ecosystems (eg rainforests; many wet eucalypt forests), and can't be implemented in others (eg fire-sensitive wet eucalypt forests that carry heavy fuel loads, such as mountain ash).
- Fuel reduction burning is most effective in reducing the intensity and spread of fires under moderate fire conditions (eg, by allowing fire crews to attack & suppress fires more easily and quickly). As fire conditions become more extreme, fire intensity and rate of spread increase exponentially even at low fuel loads.
- The frequency of burning required to maintain low fuel loads (say 8 t/ha) varies between forest ecosystem types – in Australia, from annually to around 10 years.

### **Constraints**

- There are many constraints to implementing the scale of fuel reduction burning that would be desirable for maximum bushfire risk reduction across the landscape:
  - there are a limited number of days in the year when conditions allow it to be done safely and effectively (eg as few as 10-20 in Victoria in many years);
  - the fragmented and populated character of many landscapes makes it difficult to implement safely and efficiently;
  - it can be difficult to implement in dissected and remote country;
  - there are likely to be adverse biodiversity impacts if the frequency, intensity and season of burning don't adequately reflect natural processes;
  - there may be adverse health impacts from smoke;
  - it requires a higher level of resources (staff, funds ...) on both public and private land than society has been willing to commit.

### **Conclusions**

- Recent bushfire inquiries (Esplin, Victoria 2003; Nairn, 2003; COAG 2004) have all recommended that more fuel reduction burning be conducted.
- The Esplin and COAG reports both emphasized the practical need (because of the constraints above) to focus on a strategic approach to fuel reduction burning, informed by better understanding of the effectiveness of fuel reduction strategies in minimising risk in particular locations.
- The appropriate scale and frequency of fuel reduction burning is an important issue for public debate, and a central issue for consideration by the Royal Commission. Our understanding will be informed by analysis of the most recent Victorian fires.
- The expertise and experience of land managers – indigenous, private and public (both national parks & state forests) - are very important in informing this debate.
- The outcomes of past inquiries and other research suggest that strategic fuel reduction burning should be a more important component of bushfire risk reduction strategies in the future; but fuel reduction is only one part of overall strategies to reduce bushfire risk, and there are limits to what it can achieve.

Sources: COAG Inquiry 2004, Ch 6; Kanowski et al 2004, *Australian Forestry* 68: 76-86