PART I: A REVIEW OF ALL STATE AND FEDERAL REPORTS ON MAJOR CONFLAGRATIONS IN AUSTRALIA DURING THE PERIOD 1939 TO 1994 TO IDENTIFY KEY ELEMENTS OF FIRE PREVENTION AND SUPPRESSION

EXECUTIVE SUMMARY of PART I

Traditional Agency Response to the Bushfire Hazard

Bushfire as a Natural Hazard

- The traditional view of natural hazards is that they are defined by extremes in the natural environment.

- Natural hazard research and mitigation are focussed on the extent to which variations in the natural environment influence the hazard.

- Strategies for reducing the bushfire hazard focus on the management of extremes in the natural environment.

- These strategies include fire suppression; fire prevention works designed to support suppression efforts, such as the construction of firebreaks and fire access roads, and the provision of water points; and broad-scale fuel reduction burning.

Assessment of the Traditional Approach

- For the vast majority of fires, suppression is remarkably effective.

- Limitations of traditional fire prevention and suppression strategies only become apparent in the event of a major conflagration. During major conflagrations, fires can burn at such intensities that their forward spread cannot be controlled by suppression forces or firebreaks.

- This is significant as major bushfires are responsible for the vast majority of bushfire losses.

- However, fire suppression and prevention strategies may still be very effective at averting a major conflagration. For example, an extremely effective suppression strategy when weather and fuel conditions are conducive to a major conflagration, is to extinguish outbreaks of fire quickly, before they become too intense to control.

- Broad scale fuel reduction burning of forest fine fuels has proved to be an important factor in reducing fire size and improving the ease of control by suppression forces.

- In some instances, fuel loads have been found to accumulate rapidly after fuel reduction burning. An improved understanding of fuel accumulation rates in different forest types is essential to better assess the effectiveness of fuel reduction burning.

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- The effectiveness of fuel reduction burning cannot be assessed simply on its ability to reduce litter weights. The reduction of bark and mid-storey fuels is an equally important objective of fuel reduction burning.

- The practice of fuel reduction burning is supported by the more widespread appreciation that fire is an integral part of the Australian environment.

- As biodiversity is intricately linked to fire regimes, fire ecologists advocate the implementation of a range of diverse fire regimes, including fire exclusion, to best maintain biodiversity.

- The study of the relationship between fire regimes and biodiversity for different flora and fauna communities is becoming an increasingly important field of research.

Community Response to the Bushfire Hazard

The Vulnerability of Communities to Major Bushfires

- An alternative conception of hazard is that a physical event, such as a high-intensity bushfire, does not itself constitute a hazard.

- Rather, the magnitude of a bushfire disaster is largely a function of the extent to which the actions and behaviour of people make them particularly **vulnerable** in the event of a fire.

- Three studies, each based on the 1983 Ash Wednesday Bushfires in Victoria, have enabled us to identify the factors that influence the vulnerability of people and homes in major bushfires.

The Ability of Communities to Reduce Their Vulnerability

- The understanding of factors that influence vulnerability confirms that there are many ways in which communities can significantly reduce losses in major conflagrations.

- By encouraging community participation in reducing vulnerability, fire management agencies may be able to resolve some of more complex disaster mitigation problems that have become apparent with the development of the urban-bush interface.

- An effective way of facilitating community participation is for fire management agencies to support community groups that have taken responsibility for the development of bushfire safety strategies.

Role of Agencies in Facilitating Community Participation

- Participative processes have been employed extremely successfully in recent years in catchment and land management, particularly through the Landcare program. The quality of agency support to communities has been found to be an important factor in the success of these participative programs.

- For participative programs to be successful in reducing the bushfire threat, fire management agencies will need to create opportunities for community groups to take responsibility for their own fire safety, rather than advocating solutions that, in effect, absolve community groups from taking responsibility for their own fire safety.

- Fire management agencies will also have to acquire skills in the development and application of participative processes.