



COAG Inquiry on Bushfire Mitigation and Management

WWF Australia

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The following is a formal submission by WWF Australia to the COAG Inquiry on Bushfire Mitigation and Management.

WWF Australia (World Wide Fund for Nature Australia) has worked as an independent force to protect Australia's natural environment for nearly 25 years. WWF works through collaboration rather than confrontation across economic, political and cultural boundaries. With the help of more than 40,000 supporters across Australia, WWF Australia is currently working on 180 projects, raising and investing more than \$11 million annually in conservation programs.

Introduction

Last years south-eastern fires were the product of a number of contributing factors - extreme weather conditions from one of the longest and most severe drought in over 100 years; strong winds; and lightening strikes. Fire, like drought, is an inherent part of the Australian landscape. It plays an integral role in shaping of many of Australia's diverse plant communities where much of our flora and fauna has evolved not with fire *per se*, but to a certain regime of fire.¹ Just as Australia cannot be drought-proofed, it cannot be fire-proofed. Furthermore, the changes in climatic conditions with global warming are likely to increase the severity of bushfires.²

There are no doubts that Australia will have to continue to live with fire. Resources need to be directed into developing a better understanding of fire and improving mitigation strategies. This can only be achieved through balanced and coordinated outcomes.

The challenge is to develop effective policies and management practices that protect human life and assets and biodiversity. This requires a holistic and science-based framework that integrates both human/ asset protection with the management of biodiversity.

WWF Australia hopes that the Committee will use this Inquiry to further the understanding of the role of fire in biodiversity conservation and how it can be effectively incorporated into life and asset protection strategies.



Summary of Recommendations

Recommendation 1

That the committee examines the history of major fire events to highlight that fire in Australia is not atypical.

Recommendation 2

That the committee examines the extent to which the drought in 2002 was a major contributor to the 2002-2003 fires and that the drought conditions were exacerbated by global warming.

Recommendation 3

That the committee examines the correlation between major bushfires and land tenures in relation to property planning and fire management responsibility.

Recommendation 4

That the committee examines the role of how multiple zoning practices can be applied to assist in balancing asset protection and the conservation of biodiversity.

Recommendation 5

That the committee examines the role of fire management to maintain biodiversity and ecosystem services.

Specific Comments

Recommendation 1

That the committee examines the history of major fire events to highlight that fire in Australia is not atypical

Large fires in Australia are not unusual. In fact, south-eastern Australia is one of the three most fire-prone areas in the world, along with southern California and southern France.³ This is clearly shown in the history of Victoria's major fire events:⁴

February 1851 Black Thursday, February 1898 Red Tuesday, Early 1900's' March 1926, 1932, January 1939 Black Friday, March 1942, December 1943, January 1944, February 1952, January 1962, January 1965, February 1965, February 1968, January 1969, December 1972, February 1977, December 1980, January 1983, February 1983, February 1983 Ash Wednesday, January 1985, January 1997, January 1998, December 2002, 2003 Eastern Victorian Fires 2003.

The regularity of fire in the Australian landscape is best illustrated in our plant communities. The Australian bush has evolved so that many native species have



developed mechanisms to allow quick recovery from fire, such as – post fire seed release; regeneration from lignotubers / epicormic buds; and smoke exposure germination. Other plant adaptations include the ability to survive in poor nutrient and dry soils as well as oil gland leathery flammable leaves that encourage fire.

Clearly fire in Australia is not new nor is it an isolated catastrophic event.

Recommendation 2

That the committee examines the extent to which the drought in 2002 was a major contributor to the 2002-2003 fires and that the drought conditions were exacerbated by global warming

Australia experienced its worst drought in 2002 since reliable recordings started in 1910.⁵ The drought combined with extreme temperatures and strong winds provided ideal conditions for severe fires. The 2002 drought was largely a response to El Nino.⁶ However, unlike other El Nino related droughts, 2002 was particularly severe due to the additive affects of drought and extremely high temperatures. This outcome is consistent with climate change predictions.⁷

Climate change includes, predictions of increased temperatures, changes in the hydrological cycle (change in rainfall patterns) and increase in evaporation, all of which make ideal conditions for fire. Under these expected conditions fire activity is likely to increase in, as seen in 2002-03, severity.

Australia needs to adapt to these fire prone conditions and simply learn to live with fire. Fire management practices must offer proactive solutions that overcome environmental, political and functional difficulties faced today. Elimination of fire is not a solution. The focus should be on developing ways of using fire as a managing tool for biodiversity whilst working around improved life/ asset protection.

Recommendation 3

That the committee examines the correlation between major bushfires and land tenures in relation to property planning and fire management responsibility

Bushfire management and mitigation is the responsibility of all land managers under all tenures. Property preparation as well as a shared responsibility approach is critical. The response, in some quarters, after the 2002-03 fires was to pinpoint blame on public tenures. Correlations between tenures and fire need to be conclusively determined to put an end to the speculative debate. Understanding fire relationships with tenure type is important for producing effective management and mitigation practices for within and across properties.



National parks and conservation reserves have been at the peak of the tenure management debate. The key argument being that they have failed to meet

mitigation measures⁸ and are an enormous risk in the promotion of fire. However, statistical evidence refutes this notion of risk. In South Australia, over a 10 year period between 1974-84 only 14% of fires started in national parks and conservation reserves.⁹ In NSW between 1995-2003 only 11% of fires spread from national parks but 22% of fires spread from private tenures into national parks. Meaning that 89% of fire in national parks were contained within the park boundaries.¹⁰ If national parks are burnt in an attempt to mitigate the 'risk' of fire, it will completely undermine what they are set up to do – conserve biodiversity. Any suggestions in support of this sort of reactionary approach is extremely questionable in terms of appropriate land management strategies for the broader landscape.

Other land tenures discussed include those that permit land use practices including logging and grazing. These tenure types also require reviewing in relation to post-logging activities and associated increased fuel loads, and grazing in relation to the promotion of woody and flammable shrubs.

Needless to say, without the conclusive facts on fire and tenure type, it is almost impossible to determine best mitigation and management practices for properties and across properties.

Recommendation 4

That the committee examines the role of how multiple zoning practices can be applied to assist in balancing asset protection and the conservation of biodiversity.

In addition to property planning, landscape and cross tenure management is crucial. Fire simply does not stop at borders. Property plans need to be integral with regional plans to work toward a common framework. Education, town planning (bush/urban interface), monitoring, web-based information systems, mapping are some ways to increase communication and responsibility sharing across communities and governments.

A realistic multiple zoning approach as described by the SEQ Consortium¹¹ is an example of how biodiversity and asset protection requirements can be balanced over the greater landscape. This strategy represents a planning approach that is required at a state and national level.

Recommendation 5

That the committee examines the role of fire management to maintain biodiversity and ecosystem services



As already stated, the Australian bush has evolved with fire. The type of fire regime required for individual species varies. Burning strategies that focus on high frequency and low intensities will be suitable for only a proportion of species. By imposing a

single burning regime across the landscape only simplifies ecosystem structure and function (service) and reduces overall biodiversity. To maintain biodiversity outcomes, it is critical that fire management retains variability and takes an appropriate mosaic approach.¹²

A high frequency and low intensity fire regime will assist in the protection of assets but will serve little benefit to biodiversity. Furthermore, there is essentially a failure in function as this burning frequency alone will not stop large fires especially under extreme weather conditions expected with climate change.

Inappropriate fire regimes (too frequent or too infrequent) have had significant impact on the Australian environment so that high fire frequency is listed as a Key Threatening Process under the *NSW Threatened Species Conservation Act, 1995*. It is important to recognise the value of biodiversity and ecosystem services. Biological assets need to be at the forefront of fire management strategies and those that face local extinction should rate as a priority.

The current burning approach is trying to adapt to a “one size fits all” fire strategy that fails in many ways. It will not stop fires especially under extreme weather conditions; may encourage greater fuel loads with the increase of flammable shrubs (as grazing); in isolation will fail to protect assets; and fails to produce the mosaic conditions that is critical for the maintenance of biodiversity.

Fire regimes should be used sensibly so that a balance is effectively retained between asset protection and biodiversity requirements. This can only be achieved with cross tenure planning based on a holistic and science-based framework through the coordination between communities and governments.

Conclusion

The Australian bush has evolved with fire and as a result, large fire events are not unusual. The increase in drought-like conditions associated with climate change will only exacerbate the severity of bushfires. Australians will need to adapt and learn to effectively live with fire.

There is a *critical* need for a holistic and science-based approach to the management of fire for the protection of human life/ assets and biodiversity. Effective policies and management practices must capture biodiversity outcomes as an integral part of the human/ asset protection strategy.

A common response after the catastrophic fires is the attempt to pinpoint blame to the various management approaches in different land tenures in Australia. The debate surrounding land use and fire needs to be dispelled. The relationship between fire and tenure type plays an important role in property planning. As fires simply do



not stop at boarders, property planning needs to be integral in regional plans. An example of this is the zoning practices described by the SEQ Consortium that balances fire management for asset protection and biodiversity.

It is clear that in order to maintain intrinsic biodiversity values, fire regimes need to be variable. It is non-sensible to suggest that extensive fuel reduction is the universal solution for both the control of fire at a property level and conservation of biodiversity. The protection of biological assets and ecosystem services, especially those at a local or regional level that are threatened with extinction, should be rated as important protection zones and managed accordingly.

References

¹ Watson, P, 2001. The Role and use of Fire for Biodiversity Conservation in South-east Queensland: Fire Management guidelines derived from ecological research. SEQ Fire and Biodiversity Consortium.

² Karoly, D, and Risbey, J, 2003. Submission to the Committee on the Recent Australian Bushfires. <http://www.aph.gov.au/house/committee/bushfires/inquiry/subs/sub384.pdf> Sited December 2003.

³ Commonwealth Bureau of Meteorology. Fire. Commonwealth of Australia 2003. <http://www.bom.gov.au/lam/climate/levelthree/c20thc/fire.htm> Sited December 2003.

⁴ Department of Sustainability and Environment. Major Fires in Victoria – Fire History. http://www.dse.vic.gov.au/web/root/domino/cm_da/nrenfoe.nsf/frameset/NRE+Fire+and+Other+Emergencies?OpenDocument Sited December 2003.

⁵ Karoly, D., Risbey, J, and Reynolds, A, 2003. New Research has found that human-induced global warming is a key reason why the Australian drought of 2002 has been so severe. WWF Australia 2003.

⁶ Commonwealth Bureau of Meteorology. Fire. Commonwealth of Australia 2003. <http://www.bom.gov.au/lam/climate/levelthree/c20thc/fire.htm> Sited December 2003.

⁷ Karoly, D., Risbey, J, and Reynolds, A, 2003. New Research has found that human-induced global warming is a key reason why the Australian drought of 2002 has been so severe. WWF Australia 2003.

⁸ NSW Rural Fire Service Association. Submission to House of Representatives Select Committee on the Recent Australian Bushfires. <http://www.aph.gov.au/house/committee/bushfires/inquiry/subs/sub386.pdf> Sited December 2003.

⁹ Brandle, 1992. *Select Committee on Bushfires* in Xanthopus No. 139, Newsletter of the Nature Conservation Society of South Australia, February 1992.

¹⁰ Nature Conservation Council of NSW and Australian Conservation Foundation, 2003. Submission to the Commonwealth House Select Committee on the Recent Australian Bushfires. <http://www.aph.gov.au/house/committee/bushfires/inquiry/subs/sub500.pdf> Sited December 2003.

¹¹ Tran, C, and Wild, C, 2000. A Review of Current Knowledge and Literature to Assist in Determining Ecologically Sustainable Fire Regimes for the Southeast Queensland Region. Griffith University and The Fire and Biodiversity Consortium.



¹² Tran, C, and Wild, C, 2000. A Review of Current Knowledge and Literature to Assist in Determining Ecologically Sustainable Fire Regimes for the Southeast Queensland Region. Griffith University and The Fire and Biodiversity Consortium.