



Wednesday 16 June 2009

The Secretary.  
Senate Select Committee on Agriculture and Related Industries.  
PO Box 6100.  
Parliament House  
CANBERRA ACT 2600

Forest Fire Victoria Inc. makes the following submission to your Committee's Inquiry into Bushfires in Australia.

**Preamble.**

Dismayed by the disastrous bushfires in the eastern States over the summer of 2002/2003, a group of like-minded and concerned practitioners and scientists formed FOREST FIRE VICTORIA (Inc) in February 2004.

Our purpose is:

- To provide and promote independent and expert opinion on forest fire management.
- To ensure that Victoria's forest fire management policies and practices are based on science, experience and accountability: and address social, economic and environmental values of natural ecosystems.
- To ensure the long-term well-being and safety of forest ecosystems and their surrounding rural communities are protected.

Forest Fire Vic. Inc. membership include **Athol Hodgson** and **Rod Incoll**, former Victorian Chief Fire Officers and Board members, Country Fire Authority; **Phil Cheney** and **David Packham**, scientists with knowledge of fire physics, fire weather, fire behaviour and fireground safety; **Bob Graham**, skilled incident controller and trainer of firefighters; **Peter Attiwill**, eminent Australian forest ecologist and author, Editor-in-Chief of the major international journal Forest Ecology and Management; **Bill Middleton**, ornithologist, Emeritus Member Royal Society of Victoria; **Tony Manderson**, former manager of corporate and private forests; **Kevin Wareing**, former manager of commercial forestry in Victoria, nation medallist for services to fighting forest fires; **Brian Gibson**, former President Australian Association of Forest Industries and Managing Director Australian Newsprint Mills Ltd.

More details regarding our organization and its activities can be found on our website: <http://home.vicnet.net.au/~frstfire>

We have no statutory or political affiliations so our opinions are available to your Committee without fear or favor.

### Individual members have:

- Survived a firestorm that engulfed his family home on Ash Wednesday 1983.
- Participated in Victoria's fire operations in 2003 and 2006-07.
- Delivered competency based training to firefighters employed by Government agencies in Vic., WA. and private forest growers in WA, Vic, and Qld. (on going).
- Given expert opinion to bushfire inquiries in ACT, NSW, Vic.
- Given expert opinion to Reviews of vegetation based fire in Tas. 1994, Fire Management in State Forests NSW. 1996, and Fire Management Policies and Practices in WA. 2004.
- Developed the regulations for the formation of Forest Industry Brigades in Victoria.
- Prepared Consultancy reports to Victorian Local Governments and Alpine resorts.
- Participated in a Victoria-wide survey of people's views and attitudes toward fires and fire fighting after the 2002-03 and 2006-07 Victorian bushfires.
- Co- authored Department of Sustainability and Environment narratives of the Victorian Alpine Fires 2003 and The Great Divide Fires 2006-07.

From these extensive and unique hands-on experiences we can provide expert opinion on matters being investigated by your Committee.

### Our Submission.

Forest Fire Vic. Inc has, since incorporation in 2004:

Conducted a scientific and technical review of the circumstances surrounding the 2003 Victorian Alpine fires and published "The Facts behind the Fire". (ISBN's 9780980314908 (pbk); 9780980314915 (CD-ROM); 9780980314922 (web).) That Review is part of this submission ([Appendix 1](#))

Made submissions to:

- Victorian Parliamentary Inquiry into the Impact of Public land Management Practices on Bushfires in Victoria 2008. (2 submissions)
- Senate Environment, Communications, Information Technology and the Arts Reference Committee Inquiry into Australia's National Parks, Conservation Reserves and Marine Protected Areas. 2006.
- 2009 Victorian Bushfires Royal Commission.

Those documents are part of this submission. ([Appendices 2, 3 and 4](#))

### What our Review and submissions say.

- DSE does not regard fire management as its core business. **Changes to legislation are recommended.**
- Programs to manage hazardous fuels collapsed after 1983. **A new targeted program( 385,000 ha/yr) is recommended**
- The lessons of history have been ignored.
- The quantity and standard of road, fire trail and helipad access has declined.
- Landscape scale bushfires and single day fire events like Black Saturday are causing huge economic, social and environmental damage.
- The number of permanent fireline fire-fighters is woefully inadequate to manage hazardous fuels effectively and mount fast initial attack on all fires when a multi-fire event occurs. **A minimum of 2,500 is recommended.**
- The current approach to bushfire management failed repeatedly.

- Victoria's new Living with Fire Bushfire Strategy failed in 2009 and will fail again.

### **In More Detail**

We contend your Committee will find that **over three decades** successive Victorian Governments failed to provide a safe environment for Victorians and further, the scale of recent fire events was the inevitable result of government laws, policies, practices and strategies that caused bushfire management being downgraded from the top priority of land management agencies. We believe current laws, policies, practices and strategies for managing fires on public land and private land must be changed.

### **Legislation.**

Current legislation, particularly Section 62 of the Forests Act 1958, does not give the Secretary, Department of Sustainability and Environment (DSE) the necessary responsibility and accountability to protect the State of Victoria from its well documented greatest recurring threat since first settlement, devastating bushfires. Sec.62 (2) of the Act says:

"Notwithstanding anything to the contrary in any other Act or law it shall be the duty of the Secretary to carry out proper and sufficient work for the prevention and suppression of fire in every State forest and national park and on all protected public land but in any national park or protected public land proper and sufficient work for the prevention of fire shall be undertaken only by agreement with the person or body having the management and control thereof and in the case of failure to reach any such agreement as determined by the Governor in Council whose determination shall be final and conclusive." The significance of the requirement that: -- "in any national park or protected public land proper and sufficient work for the prevention of fire shall be undertaken only by agreement with the person or body having the management and control thereof and in the case of failure to reach any such agreement as determined by the Governor in Council whose determination shall be final and conclusive" is crucial. That part of Sec.62 gives Parks Victoria the power to obstruct, in practical terms a power of veto over everything to do with fire prevention on land it manages. In addition, Parks Victoria power of veto was significantly reinforced in December 2004 by amendment 62B of the Act that precludes the Secretary DSE from the application or use of fire in a national park or protected public land for any purpose, including maintenance, management, protection or enhancement of the ecology or land and vegetation unless the person or body that has management or control of the national park or protected public land agrees to its application or use. And under this provision there is no avenue for resolving disagreements between land managers.

This did not matter much in the past when parks and reserves comprised a small percentage of the public land. But it matters now because demographics and tenure of public land have dramatically changed since the legislation was first enacted in 1939 and the law has not changed to accommodate the changes. The change in tenure from State forest to parks and reserves that started in the 1970's and accelerated in the mid 1980's means that the Secretary now cannot guarantee to deliver proper fire prevention and suppression on about half the forested public land in Victoria and no one can effectively be held accountable. **The idea that a park manager can use strategies that do not conform to proper practice or refuse to use strategies that do conform, yet not be accountable when the strategies fail is absurd.** It not only leads to the possibility that land use strategies on parks and reserves may be developed and applied

by people with little knowledge of forest fire, it puts the manager responsible and accountable for fire suppression in an intolerable position. We believe this is a serious flaw in legislation and is a major weakness in the ability of the State to manage the prevention, suppression and use of fire on the public estate. It places Victorian and some interstate border communities at extreme risk to bushfires starting in parks and reserves.

Amendments to current legislation are imperative if direct responsibility and accountability for fire prevention and suppression on forested public land are to be clear, unequivocal and effective. Furthermore, the powers conferred on the DSE Chief Fire Officer by Section 16 of the Emergency Management Act 1968 must be used effectively.

S16 (1) says:

*“At the request of a co-ordinator referred to in section 13, or at their own volition, the chief officers of the agencies responsible for the suppression of fire may by agreement, appoint an officer of one of the agencies to have the overall control of the response activities in relation to any fire which is burning or in relation to any fire which may occur in any area specified by the chief officers and, in the absence of any such agreement, the co-ordinator may direct a chief officer to appoint an officer to have the overall control”.*

This arrangement makes perfectly clear the separate responsibilities of the Co-ordinator (***the bringing together of agencies and elements to ensure effective response to emergencies***) and the Controller, (***the overall direction of response in an emergency situation.***) For all practical purposes this arrangement (not then enacted) was used when lightning started 111 fires on public land on 14 January 1985. It is our experience the arrangement was crucial to controlling the fires successfully using more than 3000 people, 75 bulldozers, 20 helicopters, 16 fixed-wing aircraft and 400 tankers drawn from many agencies including Armed Services ([Appendix.1](#)). We believe the essential elements of the Emergency Management Act that provide for control and co-ordination were not used effectively in the 2003 Alpine Fires, the 2006-07 Great Divide Fires and the 2009 bushfires.

Your Committee will find DSE's former role of sustainable planning was transferred to the Department of Planning and Community Development last year. Also, an office of Land and Fire Management with status of Deputy Secretary was created recently. We agree with both changes but more must be done. The Chief Fire Officer must have the clout to influence budgets as well as control the response to fires in emergencies. The arrangement we propose is proven, simple and saleable. It is:

- DSE be rebadged as a **FOREST CONSERVANCY** with an unfettered charter (mission) to keep on all public land, rivers and streams clean and running and forests healthy and diverse.
- The office of Secretary, DSE be redesignated Conservator.
- Create two Deputy Conservators—one designated General Manager, Office of Land and Fire Management, the other designated General Manager, Office of Water.
- The General Manager, Office of Land and Fire Management be assigned the office of Chief Fire Officer for the purposes of the Emergency Management Act.
- Amend Section 62(2) of the Forests Act to read:

*“Notwithstanding anything to the contrary in any other Act or law it shall be the duty of the Conservator to carry out proper and sufficient work for the prevention and suppression of fire in every State forest and national park and on all protected public land but in any national park or protected public land proper and sufficient work for the prevention of fire shall be undertaken only after **consultation** with the person or body having the management and control thereof”*. Note; We recommend another amendment to S62 in our submission on fuel management.

- Repeal Section 62B of the Forests Act.

## Fuel Management

We have consistently advocated increased fuel reduction on public land, to protect both public land assets and adjacent communities. However, despite sub-standard performance in fire management on public land as comprehensively detailed elsewhere in this submission ([Appendices 1,2,3 and 4](#)), it is notable during the 2009 bushfires that most lives were lost in houses and on roads.

Research over 50 years starting with the Hobart fires in 1967 and including Ash Wednesday 1983 and the Canberra firestorm 2003 has identified why houses burn in bushfires and what can be done to make them safer in firestorms. The science is well known and a user-friendly guide is available for people living or intending to live in fire prone places. For roadsides and other lands where prescribed burning is an option to mitigate the effects of bushfires the science and burning guides that apply to forest and grassland apply. And by using fire, volunteer members of local fire brigades get valuable hands-on experience at planning, lighting and extinguishing fires.

**Where this knowledge is not used and applied to reduce and keep reduced hazardous fuels on roadsides, on land managed by Municipal Councils and on private property including house-blocks, a jet-stream of burning embers landing in the area on a windy day will create a fire storm that traps and kills people.**

We strongly believe your Committee must recommend mandatory evidence based fire prevention and fuel management practices be included in local Government planning provisions. This would require all municipalities to have a uniform standard for fuel management and hazard clearance on roadsides and freehold land. Fire prevention and hazard reduction work would thus be removed from local Council jurisdiction and enable landholders to clear fire hazards to meet accepted safety standards. A system that ensured work was uniformly carried out prior to the fire season is needed to support this change and reinforce effective fuel management on roadsides and freehold land. This would ensure that landholders who were reluctant to meet safety standards on their land, could not endanger their neighbours. **And as a corollary, your Committee must recommend the Victorian Government legislate to ensure in Section 62 of the Forests Act 1958 the words “proper and sufficient work for prevention and suppression” mean and include “annual prescribed burning target of 385 000 hectares. This should be treated as a rolling target, with any shortfalls to be made up in subsequent years”** Actions to mitigate against another Black Saturday are not confined to private property ,roadsides and Municipal lands – the Government, through its public land management agencies must also have clear unambiguous targets. Note. This target was recommended by the Parliamentary Environment and Natural Resources Committee in June 2008.

### Adequacy of Resources.

Three decades ago there was a large workforce of experienced fire fighters working in Victoria's forests. It included people working on hydro-electricity projects; tree fellers, sniggers and log carters employed by the timber industry; graziers; forest workers building fire access tracks, maintaining roads and tracks, and picking seed for forest regeneration and forest officers supervising forest licensees, forest works and planning autumn prescribed burning for forest regeneration and fuel reduction in winter, spring and autumn. A condition of a license to harvest saw logs or pulpwood required the licensee to make its bush workers available for fire fighting. The licensee was compensated for "time lost" by its employees/contractors and for machine time used at rates agreed to prior to the fire season. In emergency situations the licensee was also required to make mill workers available for fighting bushfires. These people got their fire skills by experience and intimate knowledge of the bush where they earned their living and those that worked on prescribed burning were the best. Away from the metropolis/rural interface rural fire brigades were farm oriented and had a high proportion of members who would never leave their properties when there was a threat that a fire might destroy their fences, stock, fodder or homes. They often were the first fire fighters to arrive at a forest fire they believed threatened their property. That skilled workforce and the vehicles and equipment it used daily were either in the forest or nearby when bushfires started. The following table shows the resources available for fighting fires in 1985 were significantly greater than those immediately available in 2003. (Appendix 1)

DATE	14–28 January 1985	8-16 January 2003	21 January 2003 **
AGENCY	CFL* 1985	DSE/PV/DPI	DSE/PV/DPI
Total Staffing	4500	?	?
Resources on fires CFL DSE/PV/DPI	2000	≈ 1400	≈ 2800 Total** All sources
CFA	500	≈ 300 +	Yes
Armed Services	449	0	90
State Electricity Commission	50	0	0
Forest Industries	120	82	Yes
TOTAL personnel on fires	3119	≈ 2000	≈ 2800
Bulldozers	75	60	61
Fire Tankers	400	200	211
Helicopters	20	9	10
Fixed Wing Aircraft	16	10	11
AREA BURNT	150,000 ha	≈ 34,000 ha @ 9 days	≈ 122,600 ha @ 14 days
TIME TO CONTAIN	100% 14 days	90% 51 days	100% 59 days



FIRES			
<b>TOTAL AREA BURNT</b>	<b>150,000ha</b>		<b>1.09 MHa</b>
<b>COST of Fire Suppression</b>	<b>\$ 7 m*** (\$14.8m)</b>		<b>\$ 100+ m</b>

Note:

- \* The Department of Conservation Forests and Lands (CFL) was an amalgamation of the Forests Commission, Lands Department (part), Fisheries and Wildlife (part), National Parks Service, Soil Conservation Authority and Ministry of Conservation (part).
- \*\* Numbers exclude personnel and resources working on the Eldorado and Stanley fires reported 1300hrs and 1545hrs respectively on 21st January 2003 with the CFA as the lead agency.
- \*\*\* Excludes contribution by armed forces. CPI adjusted to 2004 ≡ \$14.8m.

A workforce of similar size and experience to prescribe burn large areas of public land and control unwanted fires immediately they start is not available today. The reduction in numbers of trained field operatives across departments and agencies, loss of “bushies” through changes in forest management, change of machine types ((plantation harvesting machines are no longer bulldozers etc), loss of CFA volunteers due to decline in rural population and higher accreditation requirements have all contributed to the inability to mount fast and vigorous attack when many fires start more or less simultaneously. (which is common when lightning storms occur and /or in extreme fire weather during droughts.). In May 2007 we recommended to the Victorian Parliamentary Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria:- “A minimum accredited fireline fire-fighters of 2000 be permanently available year round throughout the State, supplemented by a minimum of 500 accredited fire-line project fire-fighters (based on predicted bushfire season risk) be strategically located throughout the State.” (Appendix 2) Your Inquiry is likely to find evidence that even before Black Saturday 2009 the need for more fire-fighters was recognised and inter-state and overseas agencies were alerted. And on Black Saturday firefighters normally stationed in places where fires caused most damage and deaths were working elsewhere.

It is now our opinion that all DSE accredited fireline fire-fighters should be permanently employed and the number be not less than 2500. And from those permanently employed, 100 be assigned to 4 tactical response units for deployment during January and February. The role of a tactical response unit is providing quickly, skilled assistance where it is most needed before or during an emergency. Each unit must have the number of appropriate vehicles to carry 25 crew and operate effectively during the emergency. Every member of each unit must be multi-skilled regardless of the command/leadership structure. All must be accredited to drive all vehicles assigned to the units plus fire tankers used by DSE. All must be accredited to use communications used by DSE and hold a first aid qualification.

## Finding the True Cost of Bushfires

Australian's need to know the true costs when our forests burn. In so far as Victoria is involved very little is known. Charles Meredith (1994)<sup>1</sup> reports the costs of bushfires in Victoria can be measured in millions of dollars annually with losses heavily concentrated in the occasional severe fire season. There is a lack of standardization in what these costs actually include so the real economic, social and environmental effects, including biodiversity and the value of long term losses in water yield resulting from catchment-scale fires, are not known. Furthermore, there is a dearth of information on the benefit-costs of prescribed burning or other fire prevention works including the costs of rigid vegetation controls in some local government areas which have a significant impact on the risk of damaging fires and the damage incurred as a consequence of a bushfire.

Julia Bennetton et al (1997)<sup>2</sup> "... found the ratio of benefits to costs in the average fire year is about 24 to one. That is, for every \$1 of public resources allocated to the Department's (DSE and its predecessors) fire management program, the State benefits by \$24 in terms of assets not destroyed by wild fire. This result was obtained using conservative valuations of both the assets burned and the number of asset classes (capital improvements, agricultural production, forest timber, forest recreation and conservation (flora and fauna) assets) included in the valuation, a simulation model which underpredicts likely burn patterns, and assuming that the fire management activities of private landholders and volunteer groups are half as effective as those provided by the Department's fire management program. Overall, Victoria has received high benefits from its allocation of resource to the fire management program to carry out its important fire suppression and fire prevention activities".

An analysis of the cost of five recent wildfires in Western U.S. found that the true cost of the fires varied from 2 to 30 times the reported suppression cost. (Appendix 5) The Report says:

"A full accounting considers long-term and complex costs, including impacts to watersheds, ecosystems, infrastructure, businesses, individuals and the local and national economy. Specifically, these costs include property losses(insured and uninsured) post fire impacts(such as flooding, erosion and water quality) air quality damages, healthcare costs, injuries and fatalities, lost revenue( to residents evacuated by the fire, and to local businesses), infrastructure shutdowns ( such as highways, airports, railroads), and a host of ecosystem costs that may extend into the distant future." and:

"Day-lighting the true costs of fire highlights opportunities to use active management to curb escalating costs. Unhealthy forests can increase the risk of fire. Investing in active forest management is therefore valuable in the same way as investing in one's own preventative health care. Upfront costs can be imposing, and while the benefits may seem uncertain, good health results in cost savings that benefit the individual, family, and society. This analogy helps to highlight the importance of fostering resilient ecosystems **before** fires occur, as a tool for reducing the costs of suppression and recovery----"

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<sup>1</sup> Charles Meredith (1994) Fire and Biodiversity: The Effects and Effectiveness of Fire Management. Proceedings of the Conference held 8 & 9 October 1994, Footscray, Melbourne.

<sup>2</sup> Bennetton, Julia and Paul Cashin, Darren Jones and James Soligo (1997): An Economic Evaluation of Bushfire Prevention and Suppression. Research Paper 598, Department of Economics, The University of Melbourne, November 1997.



We believe a comprehensive analysis should be done to find the true cost of bushfires in Australia and ask:

**Your Committee recommend the Productivity Commission conduct a wide ranging investigation of all the costs; social, economic and environmental, of the 2003, 2006/7 and 2009 bushfires and their aftermath in SE Australia AND a benefit-cost-analysis of the bushfire prevention and suppression in SE Australia, SA and WA from 1982 – 2009.**

## **A New Threat.**

### **Corporate failures.**

Hazardous fuels on land planted with blue gum and pine by Companies recently placed in administration/receivership/liquidation pose an immediate and significant threat to life and property on nearby lands. Most of the larger Companies formed Forest Industry Brigades under Regulations brought in under the Country Fire Authority Act in the late 1900's. Some, such as Great Southern Plantations were quick to respond whilst others, such as Timbercorp did not form Industry Brigades until recent times. The contribution of these Industry Brigades to fire management went some way to replace or surpass the previous involvement of volunteer CFA Brigades in the area.

We believe plantations established where soil and rainfall are suitable to grow commercial crops and a market is accessible, new owners will be found to manage the timber crop and through the formation of Forest Industry Brigades, contribute to fire prevention and suppression on their own and adjacent lands.

But many plantations have been established on land proven to be unsuitable to grow a commercial timber crop and we doubt if any new owner will be found capable of managing the crop, let alone the hazard posed by untended, unwanted trees. Commitment to Forest Industry Brigades and fire prevention work is likely to be less than necessary. They may even fall below the area level required to form Industry Brigades. A further complication will inevitably be the complex arrangements between the land ownership, crop ownership and harvesting rights.

The magnitude of the problem in Victoria is not yet quantified but it is real and significant. And it may take several years to resolve during which time the hazard posed by untended, unwanted trees is fuel for fires that are unstoppable on hot windy days. We doubt if the problem is even recognized by administrators/receivers/liquidators trying to get the best outcome for stakeholders. And we are not aware of any action the Victorian Government may take to mitigate the threat.

The timing of your Report (26 November 2009) is significant in that any opinion or recommendations made in the Report will be known whilst the 2009 Victorian Bushfires Royal Commission is sitting. We ask that your Committee investigate the matter and Report your findings.

**Absence of appropriate Fire Regimes(including prescribed burning) threatens our Fire Dependent Forest Ecosystems.**

We are aware that Minister Garrett's Threatened Species Scientific Committee (TSSC) has been asked to advise the Minister whether prescribed burning be listed as a threatening process under the Environmental Protection and Biodiversity Act. The TSSC has been given a deadline to provide its recommendation to the Minister by 30 September 2010. We are deeply concerned at the way this came about and the process involved.

Enquires to the Department of Environment and Arts reveal that in 2007 the Department received a nomination from someone in "the public" (they cannot reveal who) seeking that the Minister list as a threatening process under the Environmental Protection and Biodiversity Act: *Contemporary fire regimes resulting in loss of vegetation heterogeneity and biodiversity in northern Australia*. The nominee was concerned about widespread late season fires in the seasonally dry tropics. The nomination did not raise prescribed burning as a threatening process, in fact it said that prescribed burning at the right time of the year would help to minimise the problem. This nomination was referred to the TSSC, who decided off its own bat that this nomination was relevant to the whole of Australia. So TSSC then broadened the nomination, and thus set itself the task to examine the impacts of contemporary fire regimes on vegetation heterogeneity and biodiversity for all ecosystems across the whole of Australia.

TSSC members include a management consultant, a manager of a pastoral company, a marine biologist, a freshwater biologist, a river ecologist, a fisheries expert, a plant ecologist, a botanist, and an authority on northern Australian fauna. The absence of anyone with hands on experience of bushfire management, fire science, fire ecology or emergency management experience south of the tropics will in our opinion cripple whatever advice it gives the Minister and be disastrous if acted upon. And it would be doubly disastrous if the advice came from consultants within academia with similar lack of experience and knowledge.

We ask your Committee to recommend the TSSC confine its investigation to northern Australia.

In conclusion, our members offer to provide verbal opinion to your Committee on matters raised in this submission.

Athol Hodgson.  
President, Forest Fire Victoria Inc.  
For and on behalf of members of Forest Fire Victoria Inc.

36 Evan Street. PARKDALE Vic. 3195.  
Email [atholjoy@hotmail.com](mailto:atholjoy@hotmail.com)

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Appendix 1. "The Facts behind the Fire". (ISBN's 9780980314908 (pbk); 9780980314915 (CD-ROM); 9780980314922 (web).)

Appendix 2. . Forest Fire Victoria Inc. Submission to Environment And Natural Resources Committee Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria. 2008. (submission No.201.) (CD)

Appendix 3. Senate Environment, Communications, Information Technology and the Arts Reference Committee Inquiry into Australia's National Parks, Conservation Reserves and Marine Protected Areas. 2006. (Hard copy)

Appendix 4. Forest Fire Victoria.Inc. Submission to 2009 Victorian Bushfires Royal Commission.(CD)

Appendix 5. The True Cost of Wildfire in the Western US. Western Forestry Leadership Coalition. April 2009(.Hard copy)