



Preliminary submission by the
Victorian National Parks Association

to the
**Royal Commission into the
2009 Victorian Bushfires**

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Victorian National Parks Association

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Victorian National Parks Association

Preliminary Submission to the Royal Commission into Victoria's 2009 Bushfires

List of preliminary recommendations

- 1. We believe it is important that the Commission looks carefully at the need for comprehensive long-term scientific monitoring, across Victoria, of the effects of natural and prescribed fire on both biodiversity and fuel loads**
- 2. We believe it is important to look at the levels of expertise, and resources, necessary to implement scientifically rigorous monitoring programs across the State.**
- 3. We recommend that the Commission investigate the possibilities of perverse outcomes, both for public safety and for biodiversity protection, from setting large broad hectare targets for fuel reduction, and investigate the potential benefits of establishing highly strategic fuel reduction programs.**
- 4. We recommend that the Commission investigate possibilities for auditing the effectiveness of fire mitigation programs, and for auditing the effectiveness of programs for ecological burns, particularly for areas of high conservation value.**
- 5. We recommend that the Commission inquire into the effects, on a range of land management programs, of transferring staff from DSE and Parks Victoria away from their normal duties for long periods of time.**
- 6. We think it may be useful for the Commission to look at the planning processes for large strategic fuel breaks in Victoria, their effectiveness and also their cost-effectiveness when long-term maintenance is taken into account.**
- 7. It is important that any claims that introduced hard-hooved grazing stock can mitigate against the spread of fire should be subject to scientific scrutiny for effectiveness in fuel reduction, and for impacts on natural systems.**
- 8. Laws regulating the removal of native vegetation on private land are an important element of biodiversity protection in Victoria. Reasonable exemptions should be available for landowners to undertake fire protection measures. We recommend the Commission adopt an evidence based approach to scrutinizing these exemptions.**
- 9. The Commission's consideration of land use planning issues should include the adequacy of the current approach to assessing the appropriateness of new development in wildfire prone areas.**

10. It could be useful for the Commission to look at the impact of past, and current, forestry practices, particularly on the susceptibility of regrowth Ash forests to fire.

11. The Commission should investigate the possibility of a long-term, well-resourced and well-informed public education program on the role of fire in the landscape.

12. We support any capacity the Commission has to engage with Victoria's Indigenous community.

Introduction

This is a preliminary submission by the VNPA.

It outlines our concerns generally, deals with issues we anticipate might be relevant to the Commission's preliminary report, and flags issues we will deal with more thoroughly at a later date. We are, in the meantime, commissioning a number of scientific studies on issues related to fire and ecological management, and are also able to recommend a number of people the Commission might like to approach for further information.

There are increasing expectations from the community to manage natural areas primarily for fire safety, and the VNPA certainly understands the imperative of community safety. Natural areas, however, must also be managed for the protection of our invaluable natural heritage – some 100,000 terrestrial native species, the product of around 500 million years of evolution. Contrary to common understanding these two objectives do not necessarily come into conflict, but they do require well-informed science-based management.

We believe that with greater understanding, more enlightened management and public education, many areas of apparent conflict can be resolved, leading to improved safety and better management of Victoria's biodiversity.

While most natural areas of Victoria can accommodate fire very well, and in many cases actually need occasional fire to maintain their natural values, inappropriate fire regimes can be very harmful, and this is recognised in Victorian legislation. According to the Victorian Government's 2008 *Land and Biodiversity at a Time of Climate Change* Green Paper, "About 1,000 of Victoria's existing vascular plant and vertebrate animal species are vulnerable to or at risk of extinction". A great many of Victoria's 300-odd Ecological Vegetation Communities (EVCs) are already stressed, and frequent fire is likely to take them over the brink. Any EVC, or any individual species, requiring a long period between fires is in real trouble.

Ten to fifteen years ago, it was perhaps reasonable to argue that many areas in Victoria had experienced less-than-natural fire regimes. However in the last ten years or so, Victoria has almost certainly experienced more bushfires than at any time in recorded history, and this has been accompanied by a considerable increase in fuel reduction burning across the State. Claims that Victoria is still "underburnt", in ecological terms, are no longer supportable.

Essentially, Victoria is recognised as possibly the most fire-prone region on the planet, and climatologists are now predicting more frequent and more intense fires. This raises significant issues for public safety, and significant issues for the survival of Victoria's already stressed native biodiversity.

We in Victoria must rapidly increase our expertise in fire ecology, and in fuel reduction management. We must also radically increase our monitoring of the impacts of different fire regimes in the great range of ecological communities in the State. And we must look to a range of ways to increase public safety, without compromising a natural heritage that is already facing many threats.

If we get this wrong, and we could get it very wrong, it would be a terrible failure by this generation to act responsibly as a manager of our natural heritage.

Terms of reference

The VNPA claims an interest with respect to terms of reference 2, 7 and 11 and in particular with respect of the following subject matter:

1. Public land management including policies and practices with respect to fuel reduction and ecological burning, fire suppression activities such as the creation of firebreaks and wildfire management generally.
2. Laws and policies with respect to the retention, management and restoration of native vegetation on public and private land.

With respect to the terms of reference in which we claim an interest, the VNPA is broadly supportive of the current approach to fire planning and suppression and considers that it represents an appropriate balance between the needs of public safety, biodiversity, tourism and agriculture. We consider that the legislative framework is adequate, and the basic structures, processes and principles are workable and should be maintained.

We do, however, have significant concerns with the implementation of these processes and principles, and with levels of accountability. We have particular concerns about levels of expertise and resourcing, especially in regard to the understanding of fire ecology, the implementation of ecologically sound burning regimes, and monitoring.

If we are to deal with what seems an almost intractable set of problems, we must radically lift our knowledge, expertise, monitoring and, perhaps most importantly, accountability.

The Victorian National Parks Association

The VNPA has long represented the public interest in the protection of biodiversity and natural areas in Victoria.

The VNPA was established in 1952 and is one of Victoria's oldest, independent, member-based conservation organisations. It is an incorporated association with the following objectives:

Through its activities, including policy development, hands-on conservation work and educational campaigns, the VNPA aims to:

- 1. strive for the welfare of National Parks and other conservation reserves and for their protection in perpetuity;*
- 2. foster public interest in and appreciation of National Parks, other conservation reserves, and areas of scenic, historic, cultural or scientific interest through appropriate community involvement and education;*
- 3. foster public interest in nature conservation and promote matters relating to the conservation of indigenous flora and fauna and natural resources through appropriate community involvement and education;*
- 4. ensure the establishment and appropriate management of an extensive and fully representative system of inherently viable National Parks and other conservation reserves;*
- 5. conduct or promote research and make investigations and representations for the conservation of indigenous flora and fauna and natural resources;*
- 6. educate the community in matters relevant to these objects; and*
- 7. form a link between the public and the Administration in matters relevant to these objects and to promote appropriate management.*

The VNPA is the principal Victorian environmental NGO advocating for effective protection of Victoria's biodiversity and natural areas. The organisation supports a network of Friends groups throughout the State and works closely with other government and non-government organisations on a broad range of matters.

The VNPA has a formal membership of approximately 2,500 people. In common with most non-government organisations, it has a larger less formal supporters network of donors and subscribers numbering more than 15,000. It co-ordinates the largest and most comprehensive bushwalking program in the State. Though the organisation receive a small amount of government funding, most activities are supported by funding from members, charitable trusts and philanthropists.

In furtherance of its objectives, the VNPA contributes to a wide range of submissions and inquiries related to biodiversity and natural area management. The VNPA's representative role is frequently

recognised by government and government agencies. Examples of activities relevant to the subject matter of this inquiry include:

- Contributing to the development of Management Plans for national parks under the National Parks Act 1975.
- Making submissions with respect to the preparation of Fire management Plans and Fire Operations Plans across the State.
- Making submissions to various inquiries and investigations with respect to bushfires and related matters including the Victorian Parliament's Environment and Natural Resources Committee *Inquiry into the Impact of Public Land Management on Bushfires in Victoria* and Office of the Essential Services Commissioner's *Inquiry into the 2002/2003 Victorian Bushfires*.
- Contributing to reviews and inquiries with respect to native vegetation retention laws such as the review of the exemptions to these laws in 2005-2006.
- Membership of the Stakeholder Reference Group for the development of the Victorian Government's *Land and Biodiversity at a Time of Climate Change White Paper*.
- Membership of DSE's Partnership Group for the development of Victoria's Biodiversity Strategy

In addition to contributing to these formal processes, the VNPA advocates for the protection of natural areas and biodiversity. Its activities in this area relevant to the subject matter of this inquiry include:

- advocating for change in land status and better management of public land, particularly through the creation of new National Parks and reserves and for greater transparency and accountability with respect to park management, including fire prevention and suppression activities such as the creation of strategic fire breaks on public land following the 2006-2007 fires;
- commissioning research with respect to fuel reduction and ecological management burns;

The nature of biodiversity: what we are required to protect, and why that protection should be met

Victoria's terrestrial biodiversity, many tens of thousands of species that have evolved over some 500 million years, is a remarkable and irreplaceable heritage. For the most part, that biodiversity inhabits Victoria's remaining natural areas. Many of these areas are now highly fragmented and most face a range of significant threats, including weed and feral animal invasion and inappropriate fire regimes.

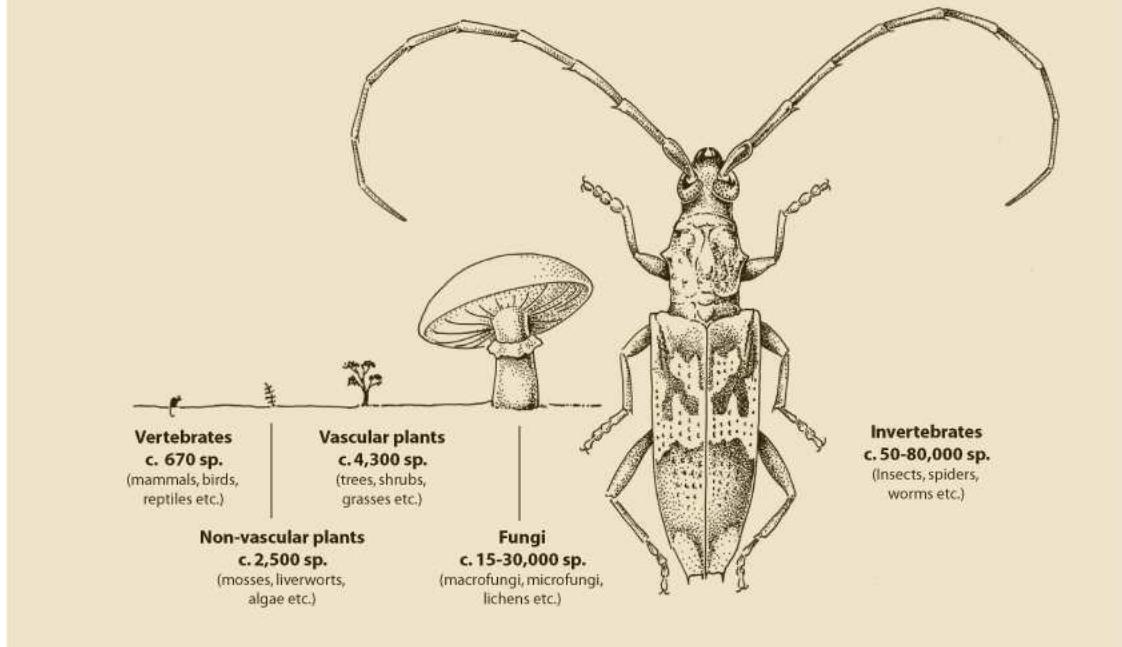
The Victorian Government's *Land and Biodiversity at a Time of Climate Change* 2008 Green Paper points out that:

"The declining health of Victoria's land and biodiversity is symptomatic of the range of challenges hindering our efforts to improve the environment... There is increasing evidence and consensus that the world is facing a biodiversity crisis. The first Millennium Ecosystem Assessment Report unambiguously showed that humans have changed ecosystems over the past 50 years in a way unprecedented in any other period of human history... In 2007, the United Nations Environment Program again highlighted the crisis in Biodiversity. In its fourth Global Environment Outlook report it warned that we are either on the cusp of or have already entered a period of mass extinction the like of which has not been seen since the demise of the dinosaurs."

Victoria is by far the most cleared State in Australia, with only around one third of its natural areas remaining, and many of those areas in poor condition. We stand to lose a great deal.

Relative numbers of native species in Victoria

Size approximates relative number of species. Total number of species possibly around 100,000.



The above diagram indicates the relative number of species (ie how many different types) within different groups of terrestrial species in Victoria. What it doesn't also show is that for the two largest groups, invertebrates and fungi, our knowledge of the species within them is seriously lacking. According to the recent draft of *Australia's Biodiversity Conservation Strategy* we have described less than 10% of our fungi, and we are similarly ignorant of most of our invertebrates.

Reaching a reasonably comprehensive inventory of Victoria's biodiversity might seem like an unachievable goal. Yet we have little trouble maintaining the Melbourne telephone directory's few hundred thousand entries, updated for accuracy each year.

More resources might help. Sensis, the company that puts out telephone directories Australia-wide, employs around 3,500 people. But the Royal Botanic Gardens herbarium in Melbourne, which has the task of describing and officially listing the 15-30,000 species of fungi in Victoria, has only two people on the job, and one of them is a recent appointment. As the original mycologist said when this happened: "I've actually got someone to talk to!"

A fraction of the numbers devoted to maintaining phone directories could lead to great strides in our understanding of biodiversity.

But so far as we know, there are no mycologists currently employed within DSE, Parks Victoria or the Catchment Management Authorities. And the only entomologists employed by the Government to study our natural areas are working on freshwater invertebrates at DSE's

Arthur Rylah research institute. With a moderate and very manageable increase in resources, we could make great strides here.

While it should not be necessary to justify protection of our natural heritage by referring to its economic benefits, the current and possible future applications of fungi, for example, are vast, and shouldn't go unheralded. The May 1997 Wildlife Australia publication *Conservation Overview of Australian Non-marine Lichens, Bryophytes, Algae and Fungi* lists a fairly staggering array of uses for fungi:

- Mycorrhizal fungi are important contributors to timber yields in agro forestry, and also in the rehabilitation of mining sites etc.
- In medicine, a range of fungi are used for production of biologically active compounds, such as those used for anti-bacterial, anti-fungal, anti-protozoic, anti-viral, phytotoxic, and anti-tumor activity.
- In industry, fungi are used for the production of enzymes, vitamins, amino acids and other biochemicals and chemicals, including ethanol for fuel. Yeasts and other fungi can readily be grown in large-scale fermenters, allowing large scale production without unduly impacting on natural systems.
- Importantly, commercial applications include management of pollution through the degradation of petroleum hydrocarbons, coal tars and pesticides etc. Some fungi have potential in the accumulation of metals from contaminated wastes.
- Fungi can also play important roles as plant pathogens in the eradication of weeds, for resisting pathogens of woody tissue, and in the control of insects such as locusts and termites. And fungi have potential uses in biotechnology (as a source of genes), and as indicator organisms for pollution, soil health, tree productivity etc.

Invertebrates have a similar potential to be of considerable use to future generations in a great many ways, and some, such as moths, even play a significant role in the decomposition of flammable forest floor litter.

National and international context for biodiversity protection

Victorian law and policy on matters such as public land management, biodiversity protection and native vegetation retention does not exist in a vacuum. Commitments to protect biodiversity exist not only at the level of Victorian law and policy, but also in the form of national and international agreements and commitments. It is important that the Commission appreciates this broader context in considering recommendations about matters that might have an impact on the biodiversity values outlined above.

Without attempting to exhaustively catalogue each instrument and its relevance to the Commission's inquiries, we list the following:

- The 1992 *Intergovernmental Agreement on the Environment* and the *National Strategy for Ecologically Sustainable Development* provides the basis for the domestic implementation of ecologically sustainable development consistently with Australia's international obligations.
- The 1992 *Convention on Biological Diversity* provides a foundation for the 1996 *National Strategy for the Conservation of Australia's Biological Diversity* and the protection and reservation of public as well as private land under the *National Reserve System Program*.
- The policy of protecting and restoring of remnant native vegetation provided for in Victorian policy under *Victoria's Native Vegetation, A Framework for Action* (2002) is specific recognition of the need for protection and restoration of native vegetation provided for under the *National Framework for the Management and Monitoring of Australia's Native Vegetation* agreed to by the National Resources Management Ministerial Council in 2001.
- National policies and international commitments with respect to climate change.

Climate predictions and fire

Predictions by climatologists (including in Intergovernmental Panel on Climate Change reports) for more frequent and more severe fire events in south-eastern Australia have been consistent for some time now, and match predictions for drier and warmer weather, particularly drier winters, for Victoria.

A 2008 report published by the Federal Government's Department of Climate Change puts the problem succinctly:

"Calls for more frequent and larger scale fuel reduction burning is a predictable response to worsening bushfire risk in drought and a drying, warmer climate. However this also has major NRM [Natural Resource Management] implications. ... in addition to affecting water quality and quantity, increasing fire frequency changes species composition and floristic structure, favouring species that like fire including weeds – many of which are highly flammable, thus increasing fire risk and hazards over the long term. Further, a warming drying climate makes it much more difficult to undertake so-called "cool" burns safely. The windows of optimum weather will be shorter and rarer, and more likely to be followed by periods of higher fire danger, thus leading to even more wildfires originating from prior fuel reduction burns. Spring burns risk many nesting bird species and breeding mammals with young that are unable to move quickly, and are highly problematic from a biodiversity perspective.

When fires do become large, then the fire suppression techniques of fire management agencies need to take water quality, water yields, and biodiversity into greater

account than is currently the case... Whether in the rangelands or the wet forests, fire management will become an ever-bigger NRM issue, exacerbated by climate change."

Campbell A. 2008.

*Managing Australian Landscapes in a Changing Climate:
A climate change primer for regional Natural Resource Management bodies.*
Report to the Department of Climate Change, Canberra Australia.

Prescribed burning

Contrary to opinions sometimes expressed in the media, the Victorian National Parks Association has long-supported appropriate, science-based prescribed burning operations, both for ecological and fuel reduction purposes, on public land throughout Victoria, including within national parks. We also have a long history of constructive involvement in the development of Victoria's 10 year Fire Management Plans (FMPs) and the related Fire Operations Plans (FOPs), which detail the program of management burns at a local level over a three year period.

The question of what is an appropriate burn is the critical issue, and a central issue for the Commission to inquire into.

We believe that the framework for the planning processes Victoria has in place for fire management on public land are largely very good, but that the delivery and implementation of them is significantly flawed. In fact the framework is often not followed.

The planning processes are not well-understood, indeed there is very limited public awareness of how the zoning system works, so it might be useful to outline the system briefly here.

The original Code of Practice for Fire Management on Public Land (CoP), published in 1995, has been superseded by a revised CoP in 2006. However, as the zoning system in the earlier code applies to ten-year Fire Management Plans, it will be some time before all plans developed prior to 2006 will be revised according to the 2006 zoning system. The 1995 zoning system divides all of Victoria's public land into five distinct fire management zones. These five zones operate across all land tenures, including national parks.

The five zones are:

Zone 1: Asset protection. These are generally relatively small areas, often around townships, and are managed intensively for fuel reduction.

Zone 2: Strategic fuel-reduced corridors. These are larger linear fuel-reduced barriers to the spread of wildfire, aimed at establishing a base for fire suppression.

Zone 3: Broad area fuel-reduced mosaic. These consist of a mosaic of fuel-reduced areas, using fire frequencies and intensities which also achieve broad-based ecological management objectives.

Zone 4: Specific flora and fauna management. The aim here is for management burning to achieve ecological objectives for particular species or communities. Such burns can also serve fuel reduction purposes.

Zone 5: Exclusion of prescribed burning. These are areas where fire may lead to ecological, cultural or economic loss. Small pockets of fire-sensitive rainforest are in Zone 5, as are tourism features such as popular walks to waterfalls.

Zones 1 & 5 occupy a relatively small area of the State. The largest zone by far is Zone 3, requiring a mosaic of fuel-reduced areas that serves both ecological and fuel reduction objectives. Burns are planned within the first 4 of these zones according to three-year Fire Operations Plans (FOPs).

This zoning system is a very workable process for establishing programs of prescribed burns across the State that can, if well-implemented according to scientific principles, result in good ecological outcomes as well as useful levels of fuel reduction.

There are several areas where the implementation of the system currently fails to achieve these ends, however.

1. Prescriptions for ecological burns, including critical intervals between successive burns, are based almost entirely on our knowledge of the fire responses of a relatively small number of species of plants. There is little understanding of the capacity of many of our larger fauna (birds, mammals, frogs and reptiles) to respond to given fire regimes, and no consideration of the responses of invertebrates (insects, spiders, crustaceans and worms etc), of fungi and smaller plants like mosses and liverworts, or of the microbiology of the soil. In all, we are currently incapable of reaching any certainty in the establishment of appropriate fire regimes for something like 95-99% of native species.
2. The fallback position to create a mosaic of age classes through conducting patch burns, allowing for a full spectrum of age classes within each ecological vegetation class (EVC), lacks clear operational guidelines.

While there is a great need to develop different, well-informed, burning regimes for each of the ecological communities, the type of burning seems sometimes to differ for each DSE region, with little consistency across administrative boundaries. There is considerable inconsistency in the application of this principle between regions. In some regions burns are predominantly "trickle" burns, which meander around the landscape, in other cases burns can be quite hot across a large area, leaving "mosaic" patches only in wetter areas which generally harbour quite different species. Indeed guidelines are in some cases vague, and in others too complex and often misconstrued in practice.

Planning and implementation of burning regimes, and management of burns, seems to vary considerably between DSE (or Parks Victoria) regions.



A "trickle" fuel reduction/ecological burn, leaving a mosaic of the same ecological vegetation class in the Fryers Ranges, Central Victoria.



A broad-scale fuel reduction/"ecological" burn in the Serra Ranges, Grampians National Park, which left large areas subject to hot burns. There are few, if any, unburnt patches remaining of the same ecological vegetation class. Burns such as these can lay little claim to have "ecological" objectives.

3. At an operational level, there is a lack of expertise (and a subsequent lack of will) to design effective ecological fire regimes, to implement them and to monitor the results. This sentence in DSE's *"Guidelines and Procedures for Ecological Burning"* isn't helpful:

"There is no intention, or indeed possibility, that the 'theoretical' age class distribution will be achieved in the field; it is simply a broad guideline for fire management planning."

4. There is little, or in many cases no, monitoring of the ecological impacts of prescribed burning. This means that many (or most?) claims that ecologically appropriate fire regimes are being followed cannot be substantiated. Perhaps the most impressive fire monitoring program in the State is at Wilsons Promontory National Park. But it is a new program, and is conducted largely by enthusiastic volunteers.

While flora monitoring protocols for planned burning have been recently developed by DSE (September 2008), the capacity for staff at a local operational level to understand or implement them is limited.

Well-planned and well-resourced systematic monitoring can help establish the effectiveness of fuel reduction burning in different ecosystems, as well as the effectiveness of burns for the maintenance of biodiversity.

The following photographs from Kinglake National Park, though not part of a systematic monitoring program, show that fire does not necessarily reduce fuel in every ecosystem type. Indeed long-unburnt areas in many ecosystems can be quite low in fuel.

The photographs were taken by Jenny Barnett, who perished in the Black Saturday fire at Steels Creek. They were included in her 2007 submission, for the VNPA, to the ENRC Inquiry into the Impact of Public Land Management Practices on Bushfires in Victoria.

Some comparative fire intervals and fuel levels at Kinglake National Park, near Steels Creek.



Shortly after fire in Kinglake National Park near Steels Creek in 1983



One year after fire in Kinglake National Park near Steels Creek



Three years after fire in Kinglake National Park near Steels Creek



Four years after fire in Kinglake National Park near Steels Creek



Twenty-four years after fire in Kinglake National Park near Steels Creek



Nearby area in Kinglake National Park near Steels Creek **burnt about forty-three years ago**

The capacity for fuel reduction burns to produce perverse outcomes is something that has been well-known, at least since the 1939 Stretton Royal Commission Inquiry into the 1939 Bushfires.

"They [the settlers] burned the floor to promote the growth of grass and to clear it of scrub which had grown where, for whatever reason, the balance of nature had broken down. The fire stimulated grass growth; but it encouraged scrub growth far more. Thus was begun the cycle of destruction which cannot be arrested in our day... And so today in places where our forefathers rode, driving their herds and flocks before them, the wombat and the wallaby are hard put to it to find passage through the bush."

Report of the Royal Commission to inquire into the Causes of and Measures Taken to Prevent the Bushfires of January, 1939 (etc.) p. 11

Judge Stretton repeated this claim in his 1946 Royal Commission into Forest Grazing:

"With each burning the growth of scrub was stimulated so that it successfully contended with the grass for possession of the mountain sides. As the scrub increased, the fire-stick was used more often to clear the scrub, and in fancied protection and encouragement of grass growth. As with an enthralling drug, the more the hapless patient had the greater the need of it grew. To-day the mountain slopes, in general, have reached such a state of degeneration that they are practically worthless for grazing."

Report of the Royal Commission to inquire into Forest Grazing, 1946.
p. 18

We are not making a suggestion here that burning always produces more fuel, rather, that it can produce a range of outcomes in regard to fuel loads and biodiversity depending on the ecological community concerned, the timing and intensity of burns, the frequency of burns and subsequent weather patterns. Remarkably, though Victoria is perhaps the most fire-prone State in the world, we still have no long-term monitoring program to establish the short and long-term effects of management burns, or of wildfire. This is scarcely indicative of truly professional fire management, and it is a situation that would not be tolerated in almost any other discipline.

With climate predictions for increased frequency and severity of fire in Victoria, land managers in the future will face a far more difficult situation. If they are to manage fire in the landscape at all effectively, they will need reliable data from long-term monitoring across the State. We believe a comprehensive program of long-term monitoring of the impact of wildfire and management burns on both fuel loads and biodiversity must start now.

We believe it is important that the Commission looks carefully at the need for comprehensive long-term scientific monitoring, across Victoria, of the effects of natural and prescribed fire on both biodiversity and fuel loads.

We also believe it is important to look at the levels of expertise, and resources, necessary to implement scientifically rigorous monitoring programs across the State.

5. Prescriptions for broad hectare targets for fuel reduction burns (currently at something like 150,000 ha per year) can produce perverse outcomes. It is relatively easy to achieve a large burn area in remote regions of Victoria, such as along the Croajingolong coast. But it is quite hard to achieve strategic burns around vulnerable townships, as even small escapes can have unfortunate impacts. Setting large hectare targets encourages less strategic, broad hectare burns in remote areas, rather than those giving immediate protection to regional communities. It can also lead to the burning of EVCs that respond perversely to fire, actually generating a more fire-prone landscape (as in point 4 above). Recent calls in the media for up to ten times current burning regimes (some 1.5 million ha per year), even if such targets were remotely achievable, would be likely to produce even more perverse outcomes, both for public safety and for biodiversity.

We also note that the recommendations, by the 2008 Victorian Parliamentary Environment and Natural Resources Committee (ENRC) fire inquiry, to triple prescribed burning targets to around 385,000 ha/year were based on flawed information. (see attached *Critique of the Main conclusion in the ...ENRC inquiry* by Jenny Barnett on behalf of the VNPA.)

In addition, recommendations including those of ENRC for annual burning targets take no account of the extent or location of wildfire in the same or previous season. This is quite odd really, and can scarcely be considered an informed or strategic approach to management burning.

We recommend that the Commission investigates the possibilities of perverse outcomes, both for public safety and for biodiversity protection, from setting large broad hectare targets for fuel reduction, and investigates the potential benefits of establishing highly strategic fuel reduction programs.

6. While the aims of prescribed burning programs, both for ecological purposes and for reduction of fuel levels, are well understood by the agencies involved, there is no independent audit (indeed no consistent auditing at all) of the effectiveness of these programs. It would seem sensible to charge some agency (such as the Commissioner for Sustainability) with the task of assessing levels of compliance with the range of legislation covering management of Victoria's public land.

In this regard, it is worth noting that, despite the imperatives established in legislation for the effective management of Victoria's natural heritage, reliable condition assessments of natural areas, even for our national parks, are unavailable. The Victorian Catchment Management Council's *Catchment Condition Report 2007* (VCMC) concludes that we do not monitor natural systems in our national parks and conservation reserves sufficiently to accurately report on their condition:

"Few comprehensive replicated assessments to demonstrate trends in condition have been completed." (VCMC, p.70) and "Whilst a snapshot of condition of selected parks can be produced... it is not possible to provide an overall consistent statewide assessment of the condition of land and water resources in the parks." (VCMC, p.70)

This statement is also true for public land in general.

We recommend that the Commission investigate possibilities for auditing the effectiveness of fire mitigation programs, and for auditing the effectiveness of programs for ecological burns, particularly for areas of high conservation value.

Native vegetation retention controls and planning issues

We anticipate that as part of its broad terms of reference the Commission will investigate the operation of the regulations restricting the removal of native vegetation on private land.

Unfortunately much of the media commentary about this issue immediately after the fires has been characterized by simplistic analysis and sensationalism. We recognize, however, that there is genuine community interest in the operation of the native vegetation clearing controls, particularly with respect to the operation of exemptions for clearing for the purpose fire protection and the management of roadside vegetation. We urge the commission to adopt an approach that is evidence based.

With respect to the current native vegetation retention controls we make the following points:

- The Victorian "net gain" policy, the general requirement to avoid clearing remnant native vegetation, and efforts to restore and extend existing remnants of native vegetation, are all important elements of biodiversity protection in Victoria which is by far and away the most cleared State in Australia. The policy and its objectives are consistent with the national and international commitments and objectives outlined earlier in this submission.

- Native vegetation is important not just from a biodiversity objective, but is also essential to the character and amenity of bushfire prone areas on Victoria.
- We support the need for regulatory control of native vegetation removal on private land combined with incentives and other measures to encourage the better management of existing remnants. We also support the existence of a range of reasonable exemptions to facilitate land management by land owners including vegetation removal for fire protection purposes.
- With respect to the exemptions to native vegetation regulations for fire protection measures, we note that the present system is based on a revision to the native vegetation retention controls introduced in November 2006. The framing of the exemption attempts to integrate native vegetation protection and fire protection by facilitating a strategic, risk based approach by landowners based on matters such as slope, aspect and vegetation type. In common with many other planning controls this attempt at sophistication brings with it considerable complexity. This and other matters with respect to the current regulatory regime will presumably be scrutinized by the Commission. In doing so we urge the Commission to adopt an approach that is based on a scientific understanding of fire behaviour and the effectiveness of fire protection measures.

The native vegetation retention controls are only one element of the regulation of land use and development provided for under the *Planning and Environment Act 1987*. If it is not already intending to do so, we urge the Commission to consider the regulation of land use and development generally, particularly with respect to residential development on the urban periphery and in other areas in regional Victoria the subject of increasing residential settlement.

In principle we submit that the approach that should be adopted is to discourage or limit settlement in bushfire prone areas to avoid conflicts between biodiversity protection on private land also an adjacent public land and the safety of residents. This can be achieved in part through regulatory tools such as the Wildfire Management Overlay. However the Overlay is limited in its coverage and, as with other planning tools, essentially reactive in its manner of operation. A better approach would be to pay for more attention to avoiding wildfire hazards, particularly in decisions about new areas for residential development.

Laws regulating the removal of native vegetation on private land are an important element of biodiversity protection in Victoria. Reasonable exemptions should be available for landowners to undertake fire protection measures. We recommend the Commission to adopt an evidence based approach to scrutinizing these exemptions.

The Commission's consideration of land use planning issues should include the adequacy of the current approach to assessing the appropriateness of new development in wildfire prone areas.

Firebreaks (strategic fuel breaks and back-burning)

After the 2006/7 fires in and around north-eastern central Victoria, a series of fire-breaks, totalling some 600 km or more in length, were planned largely for the forests of Victoria's Central Highlands. More accurately called strategic fuel breaks, they were designed not to stop wildfire, but as places from which to perform strategic back-burning to mitigate against a running wildfire, and hence protect Melbourne's catchments.

There are significant issues around their effectiveness (and the effectiveness of backburning large areas at all in cases of severe fire conditions), their design (which has changed somewhat as construction of the breaks proceeded), ecological impacts in sensitive areas (such as Leadbeater Possum habitat and rainforest areas) and the planning processes involved. Indeed the breaks proceeded initially without any identifiable planning process at all.

They have often been constructed through intact, high quality tall wet forest, and sometimes rainforest areas, both of which are questionable as suitable places from which to conduct back-burning operations. They have also impacted on a number of Federally and/or State-listed threatened species – often with belated, or weak, compliance with the relevant Acts. Breaks have sometimes run parallel to existing roads, thus creating habitat islands and extending the footprint of the breaks.

More importantly, perhaps, the planning of these breaks has been based on very old or unreliable data on the location of species they are likely to impact on, and there has been almost no monitoring of the impacts of the breaks on these species.

There are also issues with the long-term management of the breaks.

We think it may be useful for the Commission to look at the planning processes for large strategic fuel breaks in Victoria, their effectiveness and their cost-effectiveness when long-term maintenance is taken into account.

Resourcing generally

To a large degree, managing fire in Victoria involves transferring DSE and Parks Victoria staff (and indeed the large CFA volunteer contingent) away from their normal jobs. For DSE and Parks Victoria staff it can mean that they are transferred to fire duties for much of summer, and then perhaps to strategic burning duties through much of autumn, after which they are likely to take well-earned accumulated leave.

The unfortunate effect of this is that many important land management programs, including weed and feral animal management, don't get done or are severely compromised. Most effective weed management programs, for example, have to be conducted before the plant has set seed, and they have to be repeated annually over a period of time to be at all successful. If the skilled labour and skilled management required can't be guaranteed each year, it can be a waste of resources to even start such a program.

For these and other reasons, there are issues with resource availability that impact not only on effective fire management, but on many other aspects of land management as well.

We recommend that the Commission inquire into the effects, on a range of land management programs, of transferring staff from DSE and Parks Victoria away from their normal duties for long periods of time.

Some other fire issues

- **Indigenous burning**

While there is reasonably clear evidence of pre-European Indigenous burning in Victoria (as in most of Australia), many of the accounts are anecdotal. It is difficult to establish a clear picture of where indigenous burning took place, how often and at what times. It is fairly widely accepted, however, that burning might have been reasonably common in grasslands and grassy woodlands, but was highly unlikely in wet forests, rainforests and alpine regions. (A study of fire scars in old Snow Gums showed no evidence of pre-European regular burning, even light burning, in and around the High Plains.)

It would be very useful to have a good record of Indigenous burning practices, even though they may no longer always be ecologically useful, as ecosystems have been altered significantly over the last two hundred years. Many environmental weeds, and some feral animals, now take considerable advantage of burnt landscapes.

We support any capacity the Commission has to engage with Victoria's Indigenous community.

- **Forest management**

The towering old Mountain and Alpine Ash forests that dominated much of Victoria some 200 years ago have been radically altered by timber harvesting operations. There is good evidence that forestry practices, over a long time now, have resulted in a drying of these forests generally, leading to increased vulnerability to fire. This has significance for the protection of catchments (we are still logging in the Thomson Catchment for example), and for managing fire in the landscape generally. Old growth forests can also act as effective buffers, protecting fire-sensitive rainforests from bushfires.

It could be useful for the Commission to look at the impact of past, and current, forestry practices, particularly on the susceptibility of regrowth forests to fire.

- **Cattle grazing**

Despite claims that cattle grazing "reduced blazing" in the alps, the claim cannot be substantiated. Both grazed and ungrazed areas of the alps have burnt in wildfire over the years, and a landscape-scale study after the 2003 fires showed that neither the spread of the fire, nor the intensity of the fire, was significantly different in grazed and ungrazed areas. Essentially, the main agent for the spread of fire in the alpine region

is shrubs, and cattle rarely if ever eat them. The VNPA has access to a number of studies on the impacts of grazing in alpine regions, and in other areas of Victoria.

It is important that any claims that introduced hard-hooved grazing stock can mitigate against the spread of fire should be subject to scientific scrutiny for effectiveness in fuel reduction, and for impacts on natural systems.

Public education

We believe that one of the prime reasons why there are calls from sections of the community for simplistic and unachievable fuel reduction programs, is that there is a lack of understanding in the community of the complexities of fire management, and the complexities in managing ecological systems generally.

Once-common Government initiated long-term education programs, such as that on salinity in the landscape which ran through the late 1980s and early 1990s, have long been abandoned. A roughly thirty-strong education unit within the Department of Conservation, Forests and Lands was disbanded in 1995.

There are now few people within DSE or Parks Victoria with the capacity to run such programs, and no funding for them. This leaves the public largely uninformed, and this can lead to popular pressure for relatively ineffective fire management programs, and a lack of public co-operation for well-designed fire management.

The Commission should investigate the possibility of a long-term, well-resourced and well-informed public education program on the role of fire in the landscape.

Attachments:

There are a number of reports, studies and submissions that the VNPA would like to submit to the Commission to help their investigations, some of which are in preparation. In the meantime, we have attached three papers to this initial submission:

Clarke, Michael F. (2008). Catering for the needs of fauna in fire management: science or just wishful thinking? (Wildlife Research)

Barnett, Jenny. (2007). Submission to the Inquiry into the Impact of Public Land Management Practices on Bushfire in Victoria [the ENRC inquiry]. (VNPA)

Barnett, Jenny. (2008). Critique of the main conclusion in the Victorian Parliamentary Environment and Natural Resources Committee (ENRC) inquiry. (VNPA)