When Will We Ever Learn?

by Jim Hoggett & Aled Hoggett

'No person or department can be allowed to use the forest in such a way as to create a state of danger to others. If conformity with this rule cannot be brought about, the offender must be put out of the forest…'

— Stretton Report on the 1939 bushfires

'The Inquiry considers that fuel management through controlled burning is the only practicable way of reducing the excessive build-up of fuel loads in the ACT's extensive areas of park and forest…'

— McLeod Report on the 2003 ACT bushfires

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Introduction

Last year, more than 3 million hectares of South East Australia burned. This was an environmental disaster on a giant scale. Large areas of wilderness, including old growth forest, have been burned out and may never regenerate in their original form. Rare, endangered and threatened species over those areas have been exterminated. There was loss of human life and severe property destruction.

An environmental incident of a much smaller and less damaging kind, for example a major oil spill at sea or unauthorized logging in a forest, would have generated expressions of extreme outrage from environmental organizations. The bushfire disaster produced little more than expressions of dismay and regret married to somewhat frantic pleas that the public not indulge in the 'blame game'.

A number of official inquiries into the disaster have since concluded their work. It is possible to begin to see the truth about the fires—why they started, why they were not stopped, who helped to create the conditions that fed them and why Australia, with its long experience with fire and much improved fire-fighting capability, seems to manage fire no better than it did decades ago.

Clearly, our policies with respect to bushfires have failed. We cannot simply accept that huge areas of Australia will suffer highly destructive wildfire, people will die and fire-fighters will risk their lives every few years.

Table 1: Hectares Burned in 2003 Bushfires, by State/Territory

State/Territory	Damage in hectares
ACT and NSW	1,595,000
Victoria	1,324,000
Queensland	115,000
Tasmania	41,000
Western Australia	31,000
Total	**3,106,000**

(*Source*: National Association of Forest Industries)

What Happened Last Year?

What happened last fire season was an extreme fire event. It included the following:

- Vegetation and wildlife on a vast area of land were destroyed (Table 1).
- The fires were of exceptional ferocity.
- There was only limited success in containing them.

These are the bare bones of the story.

The Total Cost Was Immeasurable

It is not possible to put a precise figure on the total cost of the fires, but some idea of the extent of the damage can be given.

Devastation of Parks

We have seen the destruction of many of the environmental 'jewels in the crown'. Three-quarters of Kosciusko National Park was burned. Most of Namadgi National Park in the ACT burned. Large areas of the Gippsland forests burned.

This compares with annual clearing rates of native vegetation of less than 20,000 hectares in total in NSW and Victoria. Incidentally, wildfires would fall within the statutory definition of 'clearing' of native vegetation. The fires can also be compared with average annual logging of 60,000 hectares in Australia. The fires were the equivalent of 150 years of clearing or 50 years of logging, compressed into in a few weeks.

Loss of Biodiversity

Perhaps more significantly for environmental policy, there was an immediate and enormous loss of biodiversity which must be of profound concern to all who love the Australian bush. Billions of trees and other plants were destroyed and billions of animals and insects were killed. It is also of profound concern that conservation land managers have given us no assessment of the severity of this impact. Where are the reports/the transparency required of other land managers?

Valuing this loss of biodiversity is difficult, although some attempts have been made on the basis of trade-offs with potential commercial development. At one extreme, environmental groups might put an almost infinite value on the loss of areas of such high conservation value. Others might estimate the loss of amenity, timber resources or the cost of the fire-fighting effort.

Assuming a one-off virtually total destruction, then a very conservative, nominal value of $1,000 per hectare of lost biodiversity (less than infinite but more than the likely annual commercial timber yield), results in a biodiversity loss, in a few short weeks, equivalent to over $3 billion.

*IT IS UNLIKELY THAT CONSERVATIONISTS WOULD BE HAPPY TO ASCRIBE A MONETARY VALUE OF THIS KIND, BUT A LEGITIMATE QUESTION THEN ARISES: WHAT **DO** THEY THINK IS THE LOSS IN CONSERVATION VALUES FROM THE WILDFIRES?*

It is unlikely that conservationists would be happy to ascribe a monetary value of this kind, but a legitimate question then arises: what *do* they think is the loss in conservation values from the wildfires?

Change in Forest Structure

What we are trying to capture are the one-off losses. Of course, the bush and forest will regenerate over time and they are already doing so. But the time involved may be very long given the thoroughness of the destruction, and the resultant pattern may not resemble the original. For example, the opinion of CSIRO scientist, Phil Cheney, was that it would take 200 years for the forests in the west of the ACT to recover.

Furthermore, this does not take into account the likely longer-term adverse effects of wildfire. Very hot fires kill plants and animals, and sterilize the soil. They destroy habitat. They also expose the soil to erosion and damage catchments and aquatic life. In the context of our national dialogue on conservation, this kind of destruction is much more complete and widespread than a controlled burn or a managed forest operation.

In the longer term, the ecology and landscape will be irrevocably altered.

Economic and Personal Losses

Property damage was extensive. Five hundred and six homes were destroyed in the ACT. Four people died. The Insurance Disaster Response Organisation put the insured losses at $415 million and stated that the uninsured losses 'cannot be estimated'. There were doubtless uninsurable losses, which cannot be guessed at.

There were further estimates of economic losses. For example, it was estimated that the loss in four Victorian shires alone was $121 million. Twenty thousand hectares of production Alpine Ash were burnt in Victoria. The cost to tourism in the Alpine region has been estimated at $121 million.

It seems likely that the combined economic losses could be well in excess of $1 billion.

Other Impacts

The equivalent of 25 per cent of our total annual greenhouse gas emissions were released. Some of this release, however, would occur over a more extended period with more moderate fire regimes.

There is massive soil loss and sedimentation of water storages with short and long term economic and environmental costs.

Smoke effects in urban areas were also substantial.

Could The Fires Have Been Mitigated?

A question that continually recurs is whether catastrophic fires can be avoided or at least mitigated.

Evidence was presented at the official inquiries by those involved in fighting the fires that bolder and more vigorous early attacks on the fires might have limited their severity. Various reasons were given why this did not happen. The increased awareness of health and safety regula-

tion, the acute sensitivity to environmental disturbance and the well-grounded fear of legal reprisals for mistakes slowed the response and virtually guaranteed that the fires would run out of control.

The corollary of this cautious approach was an excessive degree of centralized control. There were numerous anecdotes of the disjunction between the operational demands on the fire front and the instructions from the control centres. Bureaucratic structures are cumbersome at the best of times, but are particularly ineffective in dealing with emergencies.

In this practical sense, suppression of the fires was bound to fail and the catastrophe was inevitable. Repetition at some future time also seems inevitable unless there are significant changes to fire-fighting and fire-mitigation operations.

There is a larger issue here. There has been a drift of public policy away from mitigation of fire risk towards suppression of fires. But suppression is not an effective long-term policy on its own. If the fires had been successfully suppressed last year, that would simply have preserved the accumulation of fuel waiting for the next set of conditions favourable to ignition.

More effective suppression will always be important but something more than suppression is needed (see below).

Did We Want This To Happen?

This is not as absurd a proposition as it may seem at first sight. Its premise is that any significant build-up of fuel on our continent will eventually burn. Any expressed preferences must be based on this historical certainty.

Australia is a fire-prone continent. Yet there is a strong reluctance in the natural psyche and the national public conversation to look at the Australian bush as two things—a complex ecology and fuel. It has been said that the rural bush is becoming an exurban bush, subject to a fire protectorate that projects urban and industrial values. The aim becomes the preservation of all vegetation—living and dead—and hence, permanent suppression of fire.

Most people would undoubtedly have preferred to avoid the loss of life and property that the fires caused around the urban areas. Most would also have not wanted the destruction that occurred in farming areas. Many would also have liked to save the Parks and forests.

But preferences of that kind have no meaning unless they are accompanied by practical action to give them effect. If that is not done, then the declared preferences are, at best, empty or, at worst, diametrically opposed to the real preferences.

So, if we choose to live among fire hazards, as it is apparent that many urban residents want to do, and we enact regulations or pursue behaviours that make hazard-reduction difficult or impossible, then can we really say we have a strong preference for damaging fires not to happen? Australians cannot claim to be ignorant of their high eventual probability.

And if we create large new National Parks willy-nilly and then refuse to accept the need to reduce fuel build-up, are we not implicitly encouraging and sanctioning more extreme fire events over much larger areas?

Box 1: Controlled Burns Are Threatening—Wildfires Apparently Are Not

Why are wildfires not listed as a 'key threatening process' under the NSW *Threatened Species Conservation Act*? After all, the destruction of Threatened Species by wildfires is several orders of magnitude greater than most of the current listed processes. Wildfires would then have their own 'threat abatement plan'. And the need for a threat abatement plan would seem to be obvious and pressing. It might include provision for substantial and frequent areas of reduced fire hazard as refuges for fauna and stores of seed. Instead, the Act lists 'too frequent fires' as a key threatening process—a provision directed at hazard-reduction burning.

We even have statutory forms of selective vision here (see Box 1).

Conservation and local resident groups have expressed varying degrees of opposition to fuel reduction by controlled burning. They may not want wildfires to happen, but they are, in effect, advocating policies that make them inevitable.

These are practical, not academic, matters. They are at the heart of the explanation for the fires and the pessimism that many feel that nothing will be done to avoid the next disaster.

On Denial—Or Did This Really Happen?

The outpouring of greenhouse gases in the bushfires was matched by an outpouring of denial by some groups.

The National Parks Association (NPA) rushed into print on 22 January 2003 proclaiming that there was 'not a skerrick of evidence' to support the accusations of insufficient hazard-reduction burning. On-ground experience and all subsequent official reports flatly contradict this. The NPA also asked how a fire that was burning in the ACT could be blamed on a NSW department, apparently oblivious of the propensity of fires to travel great distances. This was then followed by the routine furphy concerning failure to sign the Kyoto treaty.

The Nature Conservation Council (NCC) urged more focus on homeowner preparedness and development controls and less on hazard reduction.

The dissenting report from the federal House of Representatives Inquiry, by Michael Organ MP, repeated a number of familiar distortions of the case for hazard-reduction burning. He stated that 'you do not need to burn "a million wild acres" to save a house on a small acreage'. This ignored the fact that nobody was suggesting that. In fact, the reverse is the case—the purpose of hazard reduction was to prevent the loss of the more than 6 million wild acres that had just occurred.

The Australian Conservation Foundation has recently released on its Website a series of so-called 'Myths', including a self-exculpatory piece denying any responsibility by 'greenies' for the fires and a denial that more prescribed burning equals less bushfires—which may be true, but does not address the problem of the much more damaging wildfires.

Regular media reports also appear whenever some isolated remnant of plant or animal life is detected in the desolate landscape of the burnt-out parks.

This rush to denial is partly self-justification and partly utter incredulity at nature's demolition of a carefully constructed but unsound belief that we can preserve biodiversity by suppressing fire. With these fires, environmental dogma came face to face with ecological reality.

Why Did It Happen?

Almost the whole of Australia is fire prone. In the more remote areas, regular large-scale fires are a natural feature and part of land management.

In South East Australia, such large-scale burning is not part of the normal or natural pattern. Moreover, as fire science and management improved significantly from 1960 onwards, for a period, particularly in the 1970s, major fires in the South East were the exception (see Table 2).

In recent decades, the advances in fire science and fire-fighting technology have been offset by changes in fire mitigation policies. So better fire-fighting is not preventing more severe fires—indeed, the reverse appears to be true. The fires of last year illustrate this.

There are two immediate sets of reasons for the 2002–03 fires. One set principally explains the occurrence of the fires and the other their intensity and destructiveness.

Beyond that are a number of underlying causes. Many of these stem from human action or inaction.

The Physical Occurrence

The facts are relatively straightforward:

- There was a large quantity of dry fuel present.

Table 2: Major Bushfires

Year	Event
1951–52	4 million ha burned in NSW—several lives lost.
1968–69	2 million ha burned in NSW—14 lives lost.
1982–83	Extreme fires in NSW, Vic and SA—81 died—2070 homes lost.
1994	800,000 ha burned in NSW—4 lives lost—200 homes lost.
2001–02	Christmas fires in NSW—744,000 ha burned—109 homes destroyed—50,000 fire-fighters deployed.
2002–03	3 million ha burned in NSW, Vic, SA, WA, Qld—most protracted fire season on record—103 aircraft used in a single day.

- There were extreme weather conditions of heat and wind.
- There were numerous natural and human ignitions.

This combination of factors is not unusual. 90 per cent of fires are unplanned. Ignition was inevitable.

Intensity and Damage

The facts here are less obvious, but are reasonably clear:

- The fuel build-up per hectare on the ground and vertically was very large.
- The build-up of fuel on the ground in eucalyptus woodland over a five-year period, if not removed, can amount to between 25 to 40 tonnes per hectare.
- This generated huge energy releases during the fire.
- The higher energy releases led to uncontrollable spread and more complete destruction of the ecosystems.
- Expanded Parks and less hazard reduction gave greater connectivity of fuel and greater geographical scope to the fires.
- The inaccessibility and eventual scale of the fires made suppression difficult.
- Early suppression efforts were often too tentative and risk-averse.

These facts are hard to dispute but some still try. Even the Premier of NSW, in a radio interview during the fires, played down the influence of fuel loads. Conservationists tended to stress the extreme weather conditions. This is consistent with a somewhat fatalistic view of the fires. But many fire-fighters emphasized the slow and inadequate start to operations, restricted access to the fires and the fuel build-up.

There are some ironies in all this. The Kosciusko and Namadgi Parks were both initially promoted partly as catchment protection. Intense wildfires seriously and adversely affect both water quality and the stability of the catchment. Also, the ACT and Victorian fires could probably have been controlled earlier, but then the fuel and future fire risk would have remained. Furthermore, the emphasis on fire suppression in order to protect biodiversity led to the build-up of fuel but, when the fires became extreme, much of the fire-fighting effort was for the protection of property rather than ecosystems.

Underlying Causes

The description of immediate causes is not enough. In the litany above, there are certain inevitabilities of weather, presence of fuel and ignition. We cannot stop the regular occurrence of fire.

But what of the intensity? The cause here is the massive widespread build up of fuel.

Fuel can be removed by two means—either physical disposal by machine or prescribed burning. The former is practicable only to a minor degree around cities. Given the size, nature and inaccessibility of much of the bush, it is not practicable over wide areas unless allied with forestry operations (a practice being reintroduced in the USA).

That leaves the deliberate, controlled use of fire to reduce fuel loads before they become dangerous. Something like this took place in pre-European times. There is evidence that Aboriginal communities used fire extensively in all seasons for their own purposes. Natural ignitions by lightning were frequent, and burns were limited only by fuel and weather conditions.

In more recent decades, the areas of reserved land in parks have been enormously extended. At the same time, the policy towards fire has turned towards suppression of fire rather than use of fire to reduce fuel load. In parallel, the management of public land has shifted from a more closely managed use focus (grazing and timber production) with generally good access, to a more *laissez-faire* amenity focus (preservation of ecosystems) with reduced access. Restrictions on controlled burning have been extended to private land by new native vegetation regulations.

WE HAVE LOST APPRECIATION OF THE FACT THAT FIRE IS A FRIEND OF THE ENVIRONMENT AS WELL AS AN ENEMY

With this shift has come a change in the quantity and quality of fuel loads. This is partly the result of Park managers reacting to a history of frequent burning that they view as unnatural and damaging. It is also the fact that Parks' bureaucracies are stretched by rapidly expanding Parks estates, and mired in minutiae of government regulation relating to management of fuel on public land. In other words, governments appear incapable of financing and managing their new commitments to conservation.

It is now clear that hazard-reduction burning in recent years has been grossly inadequate. This was true across NSW, the ACT and Victoria. The official reports all make this point.

The federal House of Representatives Select Committee Inquiry referred to the '…grossly inadequate hazard reduction burning…' and the '…poor access…' to the fire sites.

The Victorian Auditor-General called for 'increased focus on strategic management of hazard reduction on public land…'

Inadequate hazard-reduction burning had already been a major theme in the report of a Select Committee of the NSW Legislative Assembly on the 2001–02 bushfires.

The first recommendation of the McLeod Report on the ACT fires was that '…fuel management through controlled burning is the only practicable way of reducing the excessive build-up of fuel loads in the ACT's extensive areas of park and forest'.

Even the Esplin Report, the most tentative of the official offerings, noted that 'In recent years, areas that have been prescribed burned in the North East and Gippsland … are below rates likely to be satisfactory either for fuel reduction for purposes of asset protection, or for the ecological needs of plant communities'. Esplin even recommended consideration of burning in spring.

Government agencies have shifted from a pre-emptive approach to wildfires to an emergency response; from a policy of mitigating the risk to one of coping with the consequences of neglect.

Hazard-reduction still takes place, but much of it is the so-called 'thin red line' around urban dwellings. It is asset protection rather than biodiversity protection.

For example, the Victorian Department of Sustainability and Environment's official Website declared that only 45,000 hectares of bush has been subject to fuel-reduction burns in the 2003 season. This amounts to 0.5 per cent of the 8 million hectares of forest land which the Department is responsible for managing. According to the Victorian Association of Forest Industries, this compares to an average of 225,000 hectares in the decade from 1974–75 to 1983–84.

New South Wales is similar. Table 3 shows the declining incidence of hazard reduction on public land and the substantially weaker and more restricted effort made by National Parks compared with State Forests. National Parks now manages twice the land managed by State Forests (as opposed to one half at the beginning of the period), so the average rate of controlled hazard reduction in the parks is about 1 per cent of the area managed compared with about 4 per cent in State Forests.

Table 3 also shows that less than half of burning in State Forests is uncontrolled, whereas 88 per cent in Parks is uncontrolled.

On this evidence, one would have to conclude that State Forests is a better friend to biodiversity than National Parks—or at least that they know

Table 3: Hazard Reduction and Wildfire, 1992–93 to 2002–03

	Prescribed Fire Area		Wildfire Area	
Year	SFNSW	NPWS	SFNSW	NPWS
1992/1993	75,133 ha	No record	4,761 ha	21,772 ha
1993/1994	95,424 ha	47,816 ha	131,956ha	382,897 ha
1994/1995	99,915 ha	35,778 ha	126,060 ha	89,112 ha
1995/1996	95,395 ha	25,572 ha	23,904 ha	15,192 ha
1996/1997	144,226 ha	15,866 ha	17,578 ha	12,670 ha
1997/1998	80,105 ha	8,302 ha	87,921 ha	236,152 ha
1998/1999	60,275 ha	12,876 ha	4,808 ha	14,195 ha
1999/2000	61,478 ha	6,752 ha	824 ha	6,715 ha
2000/2001	35,989 ha	19,733 ha	76,498 ha	217,980 ha
2001/2002	58,893 ha	31,703 ha	81,903 ha	595,388 ha
2002/2003	54,509 ha	42,827 ha	167,112 ha	1,002,068 ha
Annual Average	**78,304** ha/yr	**24,723** ha/yr	**65,757** ha/yr	**235,831** ha/yr

Source: Adapted from Paul de Mar, 2000.

what areas they are burning. The recent announcement by the NSW government of significant budget cuts in environmental programmes (including Parks) will make the disparity greater.

The financial resources applied to bushfire control appear substantial. But the proportion applied to actual, in-the-field, hazard-reduction is a very small fraction of those absorbed by bureaucratic processes and the intermittent bursts of enormous expenditure in fire suppression, especially in emergencies. You can buy a lot of mitigation for the $11,000 per hour paid for an Ericsson crane helicopter.

In effect, we spend most of our money on preserving fuel and fighting unplanned fires and relatively small amounts on controlled reduction of fuel.

We have lost appreciation of the fact that fire is a friend of the environment as well as an enemy.

Even if we were to accept that the 2003 fires were not exceptional in the long stretch of history (which is difficult to accept), we ought not accept that we can do nothing to mitigate them. Advances in fire science, ecological knowledge and fire-fighting technology and operations give us the tools to do better.

The 2003 bushfires were greatly assisted by human inactivity and misallocation of fire control resources. If governments have a 'duty of care' for public lands, they appear not to have discharged it in relation to bushfire hazard-reduction.

Who Is Responsible?

It seems an incontrovertible baseline for policy that vegetation/fuel on the Australian landscape will inevitably burn and that larger quantities burn much more destructively.

To discover who helped create these exaggerated conditions is to discover who is really responsible for the severity of the bushfires. Which were the human agencies that could have made a positive difference and, by their action or inaction, did the opposite?

Poor Principles and Poor Policy

As far back as 1994, Greenpeace was blaming the weather for catastrophic bushfires that year. The ACF emphasizes the activities of arsonists. The National Parks Service has blamed the public.

The World Wildlife Fund's submission to the House of Representatives Inquiry declared, 'Inappropriate fire hazard regimes can damage biodiversity … Biodiversity conservation re-

quirements need to be central to any fire management policy and practice…'.

Other conservation groups prescribe ecological sustainability, biodiversity and the precautionary principle as the governing principles in hazard-reduction.

The NSW Rural Fire Service Commissioner, Phil Koperberg, has also said publicly that the Fire Service's priority must be to preserve biodiversity, implying that hazard-reduction burning will be limited (but see below).

An allied theme is that we need to understand fire better, that we need more scientific evidence to justify active reduction of fuel loads.

There is nothing wrong with these elevated prescriptions. As generalizations, most reasonable people would agree with them. But they have been applied in a way that paralyses land management. And they resulted in what nobody wants—immense loss of biodiversity.

This has come about through a complex interaction of forces. Both sides of the debate—those who wish to leave the bush untended and those who see the need for active management—can call on scientific support. The latter group also often has experience in and responsibility for land management.

The referee is government. It is aware that the political wing of the conservation movement holds the balance of power at elections and that the bulk of the population in urban areas is attracted to the general principles stated above and is not interested in the detail of how they might best be satisfied.

The facts that our knowledge of fire science and fuel management is probably unmatched and that our knowledge of ecology is confused (to say the least), swings the balance in favour of reactive rather than proactive policies.

Governments can also find support in that strand of scientific opinion that takes a 'fine filter' to ecosystems—the reductionist approach. Focusing on individual ecosystems and their unique characteristics reinforces a 'no disturbance' mentality, an extreme version of the precautionary principle. Moreover, there is an immediate political bonus in declaring Parks and applying hands-off policies for native vegetation. So the referee's decisions generally go one way.

Meanwhile, for the land manager, the fine filter approach is a nightmare. It cannot be applied over large areas, as the interactions within and between ecosystems are unknown and attempting to preserve them results in enormous costs or, more usually, paralysis. In action, the policy has some strange and perverse effects (see Box 2).

Box 2: The Transgrid Wildlife Refuge

Some while ago the electricity transmission agency, Transgrid, lopped native vegetation under its power lines in Namadgi National Park. There was a huge outcry from conservation groups at this removal of trees from a relatively small area of the park and the media made an extended fuss. Transgrid was fined $500,000 and ordered to undertake remedial work. In the fires last year, the area cleared by Transgrid was one of the few refuges for fleeing wildlife and will be one of the few areas with reasonable native vegetation cover in a park virtually cleared by fire. A case for refund of the fine?

In the end, this precautionary policy is a policy of neglect. This policy does not lead to reversion to some ideal stable state. It creates unpredictable new conditions and new landscapes fashioned by wildfire. No assessment is ever made of the long-term consequences of fire suppression.

Poor Policy and Poor Process

By definition, hazard-reduction will cause some damage even though the longer-term effects may be benign. For example, long-term studies by NSW State Forests have shown no reduction in the number of plant species due to regular burning.

However, the effect of applying ill-defined and general principles to practical land man-

agement is to stultify such regular prescribed burning by giving priority to short-term localized effects. Overall, the result is inadequate and declining rates of hazard reduction.

The administrative processes enforce this policy of inertia and give added opportunity to the groups that seek to minimize hazard-reduction burning. In a vain attempt to reconcile conflicting philosophies, we have established processes that ensure that failure to agree stifles action. In these circumstances, inaction will generally triumph over action.

NSW supplies a practical example of what happens.

In NSW, the responsibility for bushfire risk management rests with the Bushfire Coordinating Committee, which sets out the model guidelines for the 100-plus local bushfire management plans. The local committees prepare their own plans, which require approval from the central committee.

The central and local committees all allow for significant representation from the Nature Conservation Council of NSW (NCC) and the National Parks and Wildlife Service. The NCC's bushfire policy gives overall priority to its interpretation of ecological sustainability. Application of this principle has resulted in restrictive fire intervals for prescribed burning and heavily conditional licensing.

The NCC also sat on the Inter-departmental Committee (IDC) that established the processes for approval of hazard-reduction proposals in 2001. It was the only non-government agency to do so. Meanwhile, real stakeholders—private land managers—were excluded. Nevertheless, the IDC recommended a streamlined environmental assessment process for hazard-reduction proposals.

The IDC was to deal with the so-called 'perception' in the mind of the public that the regulations were too complex—as if all that were needed was a better explanation of their tortuous content. In the event, even the streamlined code is so complex that the Rural Fire Service now undertakes the environmental assessment for private landholders to simplify the process for them.

The ultimate irony is that NSW has inadequate prescribed burning even under the very restrictive fire intervals in the Code because there are too few resources applied to hazard-reduction.

An Engineered Disaster

So, at the most basic level, we all share responsibility for the fires, in our failure to think clearly about the ever-present threat of fire and our unwillingness to contemplate the difficult solutions. The guiding principles in bushfire control are impossibly vague and the capacity to act is increasingly constrained.

> *IF THE BUSHFIRE CENTRAL COMMITTEES AND THEIR POLITICAL MASTERS WERE BOARDS OF PRIVATE COMPANIES, THEY WOULD SURELY HAVE BEEN SACKED BY NOW*

More crucially, the governments we rely upon to look after the public interest have allowed the formulation of policy to be unduly influenced by narrow groups with an interest in inertia. Governments have translated this inertia into regulatory regimes and supervisory processes in which these narrow groups continue to exert influence at the expense of land managers. They have continually expanded the National Park estate and failed to apply the resources to manage it.

At another level, the conservation groups bear special responsibility. They have actively promoted the policies and been given privileged participation in their formulation and supervision. We have, in effect, had their policies in force for the past two or more decades. When disasters like 2003 occur, they are not called to account. They sit on the numerous committees (sometimes paid by the public) and suffer no consequences for the results of their efforts to minimize controlled hazard reduction (see Box 3).

National Parks is already subject to litigation arising from allegations of fire impact on pri-

Box 3: The Role of the Nature Conservation Council

The NCC has been given a privileged position in the formulation of policy for mitigation of fire in NSW. It has sat on the central policy-making committee. It has a seat on the central and local co-ordinating committees. Yet the NCC represents a negligible constituency. The bulk of its funding is provided by taxpayers.

Despite this, it has a position on a par with the politicians and government departments responsible for policy and with the State Forests and Parks agencies that manage the vast areas of public land. It has influence beyond the tens of thousands of private landowners and managers who are responsible for managing most land in the State, who have enormous collective experience and depend on the land for a living.

The NCC suffers no consequences from the failure of the policies it advocates. It does not have to clear up in the aftermath.

It is profoundly unfair and anti-democratic that a single unrepresentative group should have influence of this kind over the interests of those with most at stake.

vate land. If the public were to seek damages for lost amenity and biodiversity from destruction in the parks themselves, all those involved in engineering the increased fuel build-up would surely be culpable. Here we could include:

- the conservation groups advocating the locking-up of park land and minimal hazard-reduction; and
- governments and those agencies which have abdicated their responsibility to formulate and administer policy and have underprovided resources to mitigate fire.

If the bushfire central committees and their political masters were boards of private companies, they would surely have been sacked by now.

How Do We Do Better?

First of all, we must accept that the Australian landscape contains native vegetation that is both amenity and fuel and that we are continually allowing the creation of a vast national bonfire of flammable material.

In this case, the question is not whether to burn, but what is the most sustainable way of doing it? The existing policy of fire suppression is clearly inflicting unacceptable damage on property and the environment.

Can we modify the extent, intensity and damage of the fires?

Obviously, there is little that we can do about extreme weather conditions. Even if we accepted the contentious case for the Kyoto Treaty, it is not a short- or medium-term solution.

There is also little we can do about reducing the area reserved in National Parks. Indeed, this is likely to continue to grow.

We can blame God or National Parks or the public for wildfires, but ultimately only human agencies can reduce available fuel to prevent the creation of the lethal combination of conditions that makes such fires inevitable.

Indeed, reduction of fuel loads offers the only practical means available to us for mitigating the extreme fires. All the arguments applied against controlled burning—loss of biodiversity, weed invasion, soil destruction and erosion—apply with greater force to extensive, high intensity fires.

But, if it is to be effective, we have to accept this solution without placing a host of qualifications and conditions on it.

Many approaches to controlled hazard-reduction have been suggested, ranging from scientific research-based (negligible) burning to unrestricted precautionary burns. But two, more selective, versions are worthy of consideration.

1. Limited Hazard Reduction

This would be close to what is now attempted (but not done). It would focus on asset protection, that is the 3–5 per cent of bush surrounding urban areas or rural assets. It would be a virtually continuous programme of removal of fire hazards.

This programme would be reinforced by strict application of new building regulations so that homeowners on the urban fringe would be subjected to the same rules as their rural counterparts (dedicated fire-fighting equipment and water supply for every dwelling, fire-retardant building materials, 50 metre fuel-free and fuel-reduced zones around buildings).

We should not minimize the cost and scope of the task here or the resistance it would meet from property owners whose much-loved plants are removed, lopped or burned. The urban interface alone is many thousands of kilometres, so the active co-operation of thousands of volunteers from the community would also be needed.

If effective, this would reduce the intermittent devastating property losses, although no asset-protection zone will completely exclude a high intensity fire.

The rest of the bush and forest, mainly on public land, would be left largely untended except in the remnant, forest industry areas. It would therefore suffer regular catastrophic fires, which would ultimately transform the landscape in a manner that is difficult to predict. Most of the National Park area, however, is not used, so the impact on human activity and perceptions would be limited. In effect, we would protect one set of assets and leave the rest to take its chances.

2. Strategic Fuel Reduction

This would be a more active and extensive policy. It is consistent with a number of submissions by forest experts to the various recent inquiries.

The policy would encompass the limited 3–5 per cent 'thin red line' as described above. It would undertake strategic burns progressively to another 15 per cent on a long (ten-year) cycle to allow access and fire control. Broad-scale burning on a similar long cycle up to a further 40 per cent of the bush would replicate/complement the natural fire regime.

Thirty per cent would be untouched (except by unavoidable natural fires), covering sensitive areas of rainforest, fire-sensitive plant communities, regrowth forest and riparian vegetation. This is not to say that they would not burn anyway—especially if fire-fighting access continues to be closed off.

Nor is it to say that the areas subject to prescribed burns would not suffer some loss of biodiversity, but the loss would be much less than occurs in intense wildfire. Indeed, the intention would be to mitigate and slow catastrophic fires. In this sense, the burning should be regarded as pro-environment.

> ***In effect, we have had the fire policies recommended by conservation groups for many years now and they have failed. We need to try a new way***

Thorough maintenance of access tracks and strengthening of the existing rural fire-fighting force would be required. This would meet widespread criticism by fire-fighters of the management of fire-fighting operations last year and the standards of communications, maps and equipment.

This regime would recognize the probable extent of pre-European human and natural burning, but would be done progressively, in a controlled fashion and not during the summer months (which Aboriginal populations did do).

This would be a very ambitious programme, even allowing for the fact that most of the area of prescribed burning would be on a selective long-term pattern. With a ten-year target, it would involve burning at least 4 per cent of the bushfire prone areas each year. It would be impractical without very extensive and well-coordinated effort by private land managers and the application of considerable additional full-time resources to National Parks to effect a con-

tinual programme of burning. It would also require a much less restrictive regime of permits.

Of the two options, this appears much the preferable alternative. It would reduce the risk of catastrophic fires and the associated loss of biodiversity.

This alternative is also consistent with the thrust of the Joint Memorandum signed last year by the Commissioner of the NSW Rural Fire Service and the Director-General of National Parks, which stated that, in addition to burning for asset protection:

> …both Services also recognise the need for extensive burning in strategic wildfire zones…(and) As a matter of principle, both Services subscribe to the philosophy, that hazard reduction by prescribed burning is both a fire mitigation and environmental management tool.

It is consistent with the recommendations of the official reports. And it is consistent with research undertaken by experienced silviculturists in NSW State Forests who have concluded that biodiversity is favoured by more extensive, low intensity fires.

It is consistent with a report of the United States General Accounting Office which concluded, in relation to fire management in the Western USA that

> …the costs and risks of inaction are greater than the costs and risks of remedial action.

Hanging over both of these alternatives is the uncomfortable fact that prescribed burning has always been restricted to a relatively few days annually when the fuel is ignitable and weather conditions are judged to be safe. This reinforces the need for a prompt approval process, preferably decentralized to local level.

Either of these alternatives would reduce the risk of a huge damage bill and loss of life. The second one would also increase the chance of survival of species and thus the maintenance of biodiversity.

Neither would entirely prevent wildfires.

REDUCTION OF FUEL LOADS OFFERS THE ONLY PRACTICAL MEANS AVAILABLE TO US FOR MITIGATING THE EXTREME FIRES

There are those who argue against the practicality of eliminating available fuel. Any accurate measure of practicality would have to be weighed against the cost of doing nothing. The combined cost of fighting the recent catastrophic fires and repairing their damage will be very high.

Other options have been offered which more or less closely approximate to the existing, failed practice. The Additional Comments section of the House of Representatives report noted the change in land management practices towards prescribed burning being done

> …on a strategic basis according to negotiated and agreed fire management plans, and on the basis of comprehensive research data…

Given the size of the fire hazard area, the impracticability of gathering comprehensive (that is, very detailed) research data and the impossibility of reaching agreement between totally opposed philosophies, this formulation simply prescribes inaction. In the light of last year, it is no more than irresponsibility masquerading as caution.

Conclusion

We need, first, a clearer expression of what we are trying to achieve with fire management and the conservation of fire-sensitive values, be they life, property, amenity or ecological. On all counts we failed in 2003. If the aim is to preserve biodiversity through the retention of vegetation cover and native fauna, then the 2003 fires tell us that what we are doing is not working.

While some of what happened was natural occurrence, the intensity and extent of the fires can be explained by reference to human activity and, more importantly, inactivity.

The broad credo of governments is to preserve all ecological values everywhere in a centrally planned ecology. This is patently unachievable. And governments have proved much better at

creating parks than looking after them. Protection of the National Parks is the responsibility of government. It is a responsibility they have self-evidently discharged very poorly. It is a responsibility they have for a long time delegated to groups and to processes that have utterly failed to achieve what they were set up for—the preservation of the most precious parts of the Australian environment. These delegated entities notably include the leading conservation groups, some of which are generously funded by government to advise on bushfire management.

In effect, we have had the fire policies recommended by conservation groups for many years now and they have failed. We need to try a new way.

If the community has a duty to respond to fire emergencies, then the government has a duty to minimize the risks that are present. Allowing massive fuel build-up is not a proper discharge of its responsibility.

Fires have been part of our landscape for aeons. The question is not whether we will have bushfires, but what sort of bushfires we will have.

For the future, we have a choice on the basis of known facts. We know that if we do not conduct more extensive hazard-reduction burning, we will have large-scale, intense wildfires.

More prescribed burning would have to be accompanied with dramatic changes to urban planning and lifestyle to prevent loss of life and property damage. Urban residents can no longer enjoy unrestricted close interpositioning with the bush or forest.

For this to be effective, government must resume control of the policy processes and make them work effectively. It implies giving greater weight to the advice of land managers and local bushfire brigades, whose property and lives are at risk, than to conservation groups, bureaucrats and committees.

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Post-fire pollution and erosion at Flea Creek, renowned trout-breeding stream on the Goodradigbee River, Brindabella. One of countless examples of catchment destruction.

About the Photographs

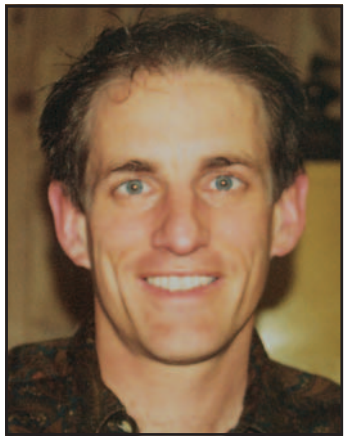
Front cover: Flaming cloud from the Broken Cart fire South Brindabella—18 January 2003. One of numerous extreme fire effects.

The photographs on the front cover and on page 15 were provided by the Brindabella community. They illustrate the extreme and freakish behaviour of the fire and the devastating after-effects. The local community is convinced that the neglect of hazard-reduction burning was directly responsible for the extreme nature of the fire and the widespread total destruction of the environment.

About the Authors

Jim Hoggett is a Senior Fellow with the Institute of Public Affairs. Before he joined the IPA he worked extensively in the Australian public and private sectors. He spent 16 years in the Commonwealth Treasury, advising on matters such as international finance, industry policy and foreign investment and serving a term on the Australian delegation to OECD. He was subsequently Economic Adviser to the Business Council of Australia. He has worked in senior management positions in Pioneer International, Australis Media and Star City Casino.

Aled Hoggett is a university-trained forester. In 2001, he ended a 12-year career with State Forests of NSW where his last position was as the organization's Silviculturist. He has undertaken four years of postgraduate study at the University of British Columbia (Canada) examining natural disturbance process in forest ecosystems. His professional experience spans Australia, Canada and Vietnam.



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