NATIONAL PARKS ASSOCIATION OF NSW
protecting nature through community action

NSW Independent Bushfire Inquiry

By email to: inquiries@bushfireinquiry.nsw.gov.au

17 April 2020

National Parks Association of NSW submission to the NSW Independent Bushfire Inquiry

Dear Professor O'Kane and Mr Owens,

The National Parks Association of NSW (NPA) is pleased to provide the following submission to the NSW Independent Bushfire Inquiry.

Introduction

The National Parks Association of NSW (NPA) was formed in 1957 and sixty-two years later we have 15 branches, 4,000 members and over 20,000 supporters. NPA's mission is to protect nature through community action. Our strengths include state-wide reach, deep local knowledge and evidence-based approach to conservation advocacy.

NPA was originally established to lobby the NSW government to pass legislation to establish a formal network of conservation reserves across NSW and to create a professional national parks agency to manage those reserves. Our founders' positive working relationship with Minister (later Premier) Tom Lewis played a decisive role in the development of the *National Parks and Wildlife Act*, first enacted in 1967. NPA has maintained a primary focus on the pre-eminent value of reservation as a means of securing a viable, sustainable and biodiverse natural landscape in NSW. Reservation is not the only means of achieving conservation outcomes, especially at the landscape scale where habitat connectivity and multi-use tenures play an essential role, however it is our firm belief that a professionally managed conservation network forms the centre-piece of a biologically diverse and environmentally sustainable future.

Our members have noted with concern the polarisation of views over the last fire season. Fire researchers and emergency authorities repeatedly spoke of the effects of extreme drought and catastrophic fire weather in driving intense, large scale and often uncontrollable fire, while

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senior politicians and other commentators argued that the management of fuels was the primary problem. It rapidly became clear that virtually all of the fires were being presented by media, commentators and politicians as emanating from national parks, irrespective of the actual land tenure, leading to ill-informed claims that forestry, grazing and agricultural lands were neither a source of ignitions nor carrying fire across the landscape.

In response to these dangerous misconceptions our submission is primarily focused on the relationship between fire risk, land management practices and NSW's system of national parks and reserves. However, we note that NPA contributed to the wide-ranging submission prepared by the Nature Conservation Council (NCC) of NSW and fully endorses the recommendations in the NCC submission.

A feature of the recent debate about fire mitigation and response has been the repeated references to the outcomes of previous fire inquiries. Many of these commentators have used either the number of recommendations that haven't been implemented or refer to specific recommendations as an indication of whether successive governments have responded appropriately to the previous inquiries. The problem with this approach is that it separates an inquiry or commission's recommendations from the reasons for making that recommendation and any associated conditions or limitations. This is very apparent in the regular references to the 'failure' of the Victorian Government to meet the landscape wide prescribed burning target recommended by their Royal Commission. The reality is that this measure led to perverse outcomes including a net reduction in asset protection as resources were devoted to reducing fuels in areas with little potential for adverse impacts. The Victorian Government subsequently made a measured and deliberate decision to align their mitigation resources more closely to asset protection outcomes, a similar approach to that adopted in NSW.

In order to avoid both misunderstanding of the basic facts of fire behaviour and future misinterpretation of this inquiry's findings, it is essential that your report to the NSW Premier explains the evidence and analysis that informs each of your recommendations. For this reason the NPA recommendations below includes matters that should be documented in the Inquiry's report as well as addressing matters of legislation, policy and strategy.

The causes of, and factors contributing to, the frequency, intensity, timing and location of, bushfires in NSW in the 2019-20 bushfire season, including consideration of any role of weather, drought, climate change, fuel loads and human activity.

The 2019/20 fire season

The extensive media, political, practitioner and scientific commentary on the causes of the fires over the course of the 2019/20 has clearly played a significant role in the establishment of the current inquiry. Since that commentary forms an essential part of the context within which the inquiry is taking place it is appropriate to consider the nature of the debate. A disturbing feature has been the extreme degree of polarisation of commentary and cognitive discordance between the views presented by senior political figures and media figures on one hand and fire authorities and fire researchers on the other.

NPA would characterise the public statements that have been issued by the Prime Minister and other senior members of the federal and NSW governments along the lines of:

> *Australia is in the grip of severe drought and the weather is unusually hot and dry. Climate change may be influencing these conditions, which promote extreme fire behaviour. Australia is already doing enough on emissions control, and the government's priority is to adapt our land management practices and response capabilities to the changing conditions. The biggest risk to local communities is the amount of flammable native vegetation in the landscape. The current fires can be attributed to a massive accumulation of vegetation in national parks. Many of the fires have been ignited by arsonists. This situation is exacerbated by a deep-seated aversion to hazard reduction amongst national park authorities and some councillors. Our adaption to the 'new normal' requires national regulation of prescribed burning, greater licence for private land holders to clear and burn their properties, the introduction of grazing and logging into national parks and the construction of new dams.*

The Prime Minister has repeatedly stated that the Commonwealth understands that climate change has influenced the extreme fire conditions, while affirming that there is no need for significant change in emissions policy. The previous scepticism about the impact of climate change has been pivoted into a call for immediate 'climate adaptation' measures. To date, the climate adaptation measures proposed by the Prime Minister include more hazard

reduction, vegetation clearance and dams. National parks have been signalled out as the priority for increased hazard reduction.

The focus on the need for greater management of fuels national parks was so specific that it would suggest an underlying belief that virtually all areas containing native vegetation are national park. It would appear that 'bushland' has become synonymous with 'national park'.

A very different perspective on the causes and control of fire has been presented by researchers and emergency authorities, including the former fire chiefs. NPA would characterise their statements in the following terms:

Climate change is driving a long-term pattern of hot, dry and windy weather that results in fires of an intensity and extent beyond previous experience. Most of this season's fires have been ignited by lightning, with some arson and other ignition sources. The extreme conditions of weather and extremely dry ground conditions are allowing fire to burn across pasture, crops, wood production forests, crown land, national park, roads, rivers and residential areas. In these extreme conditions, previous hazard reduction works have proved to confer very limited control over the behaviour of the fires. Properties have been lost in places where the surface fuels were removed by wildfire within the last few weeks, let alone recent hazard reductions. Hazard reduction is an extremely complex form of management and needs to be tailored to individual situations. It is not applicable in all vegetation communities, especially rainforest and tall wet forests, and must be applied very carefully to avoid unintended impacts on property and environmental values. Introducing more disturbance to native vegetation in the form of grazing and forestry would increase drying, fuel loads and overall flammability, while also presenting an acute threat of further loss of biodiversity.

Fire authorities and researchers have emphasised the limited effectiveness of previous prescribed burning on the behaviour and intensity of fire under extreme to catastrophic conditions. NPA notes that these immediate observations by fire practitioners have since been borne out by recent research into the lack of correlation between past burns, both prescribed burns and intense wildlife, and the patterning of fire impacts in 2019/20.

The disconnect between the views of the media and political commentators on one hand and the fire practitioners and researchers presents a significant challenge for this inquiry. While it is tempting to ascribe it to the growing community disaffection with both science

and government agencies, it is also a reflection of the uncomfortable truth that is simply not possible to provide the desired level of protection from such fires. It is imperative that the Inquiry not fall into the trap of endorsing ineffective risk mitigation strategies on the basis that they will provide a level of misplaced comfort. Risk mitigation strategies must be chosen on the basis of proven effectiveness under the extreme conditions where communities and assets are most at risk.

Moving to NPA's views on the underlying causes of the 2019/20 fires, we draw the Inquiry's attention to the summary of climatic and weather conditions in Section 3.5 of the NCC submission. In essence, the 2019/20 fire season was characterised by hot and windy conditions and landscape scale drying of fuels, soils and catchments, creating a high probability of extended periods of extreme to catastrophic fire conditions. The exceptional nature of the prevailing conditions largely overwhelmed the normal north to south progression of the fire season, with concurrent fires across central and southern NSW. The geographic spread of such conditions generated severe operational challenges in responding to multiple simultaneous events, limited options to concentrate resources in the areas of greatest peril.

A measure of the dire conditions experienced over the 2019/20 season is that landforms (e.g. water bodies, rocky escarpments), vegetation communities (e.g. wet forest and rainforest), agricultural lands and built infrastructure that would normally inhibit the progression of fire had little observable impact in the face of extreme conditions and long distance spotting. It would appear that lightning associated with fire ground weather reinforced these drivers by adding additional, dispersed ignition points across the landscape.

NPA notes that increased incidence of lightning is one of the predicted consequences of climate change.

This had a 'double whammy' effect across NSW, with fire managers unable to rely on natural barriers in their operational planning, and native species and ecological communities that are by definition poorly adapted to fire suffering severe damage.

Historic patterns of property loss

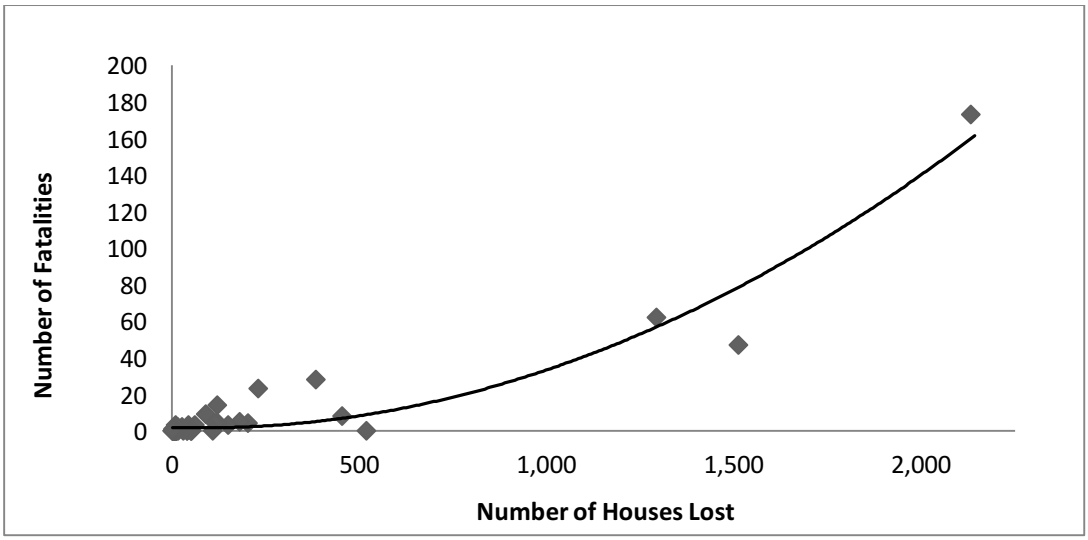
Analysis of house losses to wildfire over the period 1957- 2009 (Blanchi et al, 2010) indicates that the severity of fire weather conditions, rather than fuel condition, was the primary driver of property loss. Table 1 of Blanchi et al is reproduced below

House losses of some major bushfire events in Australia 1957 – 2009 (Blanchi et al 2009)

Fire Danger Rating	Forest Fire Danger Index	No. of events	% of total events	No. of houses lost	% of total loss	Average loss per event
CATASTROPHIC	100+	8	14.8	5,319	64.4	665
EXTREME	75-99	9	16.7	1,181	14.3	131
SEVERE	50-74	27	50.0	1,163	14.1	43
VERY HIGH	25-49	9	16.7	589	7.1	65
HIGH	12-24	1	1.9	4	0.1	4
LOW-MODERATE	<12	0	0.0	0	0.0	-
Total		54	100.0%	8,256	100.0%	153

The study determined that 64% of house losses are associated with Catastrophic Fire Danger ratings (conditions in which the Forest Fire Danger Index (FFDI) equals or exceeds 100). The total losses up to Very High FFDI are a tenth of that of those at Catastrophic Fire Danger ratings.

The data compiled by Blanchi et al demonstrates a strong correlation between the loss of lives and houses in bushfire events across Australia. The data in Figure 1 below draws upon 54 major fires between 1957 and 2009 and includes the Black Saturday events.



Fatalities and house losses (data source Blanchi et al, 2012).

Historically, especially on the NSW North Coast, the fire season has progressively shifted to an earlier period, with the bush fire danger season now starting in August rather than October. Outside of the designated fire season property owners are not required to apply to the Rural Fire Service (RFS) for a permit to conduct prescribed burns on their lands. One of the clear consequences of this system is that, in the lead up to the fire season, many rural land holders attempt to burn off immediately before the start of the bush fire danger period.

This has led to numerous fires escaping from private lands onto crown lands, including the fires which impacted on Yuragir National Park in the 2019/20 season. The imposition of an all year-round permit system has historically been resisted by the Rural Fire Service (RFS), which relies heavily on volunteers for the administration of permits. In contrast, Fire and Rescue NSW has required permits at all times for any fire that poses a risk of escape in their nominated fire districts.

NPA supports improved resourcing for the administration of permits and the introduction of a year-round requirement for permits. Should the NSW Government retain permit-free period, it is recommended that the requirement for permits be triggered in any circumstance where the FFDI exceeds 12, the level as adopted for planning prescribed burns.

Impacts of climate change

Many observers have made the link between climate change and the challenges associated with fire management. Much research has focussed on the use of Global Climate Models to

predict shifts in fire weather using indices such as cumulative annual FFDI, seasonal changes in FFDI exceeding given thresholds and similar approaches (Lucas et al, 2007, Hennessey et al, 2005). More recently research has considered shifts in the recurrence (or annual probability of exceedance) in relation to fire weather at the statistical extreme (see Douglas and He, 2019). These studies have identified a significant shift in fire weather for parts of the NSW, notably the Central West and North Coast.

From a bushfire perspective, the underlying and most critical influence on the likelihood of severe to catastrophic fire conditions is drought. Drought acts to pre-condition fuels and increase the probability of extreme weather parameters such as high winds, temperatures and low humidity. In the absence of drought conditions, as expressed through the Ketch Byron Drought Index (KBDI), bushfires will be less intense and more responsive to suppression.

Douglas (2017) provides the following key findings on the impact of climate change and drought on bushfire risk management in NSW:

- There are important shifts in the number of threshold events exceeding an FFDI of 25 and 50, especially for the NSW Hunter, Greater Sydney and south coast regions;
- The cumulative FFDI is rising annually for all weather stations investigated;
- There is little shift in underlying depth of drought but the persistence of drought is longer;
- The FFDI setting for NSW for bushfire risk planning purposes should be raised to FFDI=100 (except for the Cooma-Monaro and New England fire weather districts).

Hazard reduction

NPA draws the Inquiry's attention to Section 3.6 of the NCC submission which provides a summary of NPWS's historic performance in hazard reduction, which compares very favourably with the rate of treatment in other fire prone lands in NSW. As noted in our introduction, there is a very large gap between the political assertions and reality on this issue.

NPA recommends to the Inquiry the research program led by Professor Ross Bradstock of the University of Wollongong's Centre for Environmental Risk Management of Bushfires on the value of different forms of hazard reduction, and specifically his conclusion that the most

effective measures are the modification of fuels in close proximity to vulnerable assets. While it is not our intent to encourage large scale clearing along interface with assets it would appear that intensive management of this zone offers the best balance between risk abatement and environmental impact. We note that the current prescriptions for the management of Asset Protection Zones (APZ) in NSW don't require the complete removal of vegetation, but instead the avoidance of continuous canopies and shrub layers and the minimisation of ground fuels. Best practice management of APZ should retain soil structure, natural hydrology and some form of ground cover. In situations where the relevant Bushfire Committee does not prescribe an APZ, similar principles should apply to the linear strip of Strategic Fire Management Zone that immediately adjoins any vulnerable assets. This would preferably be achieved through prescribed burning from the private property boundary with the objective of creating a mosaic of age classes and structure.

NPA also recommends that the Inquiry consider the research of Professor Lindenmayer of the Fenner School of Environment and Society and Professor Zylstra of the Centre for Environmental Risk Management of Bushfires on the relationship between different types of vegetation modification and fire risk (eg. Zylstra 2018). Their research clearly demonstrates that forestry operations and agricultural grazing increase the propensity of certain landscapes towards high intensity fires. The causes include increased ground fuels, canopy loss and drying associated with forestry operations in the case of wet forests, and the preferential selection for fire prone scrubs species in response to grazing and frequent firing of the grasslands in the case of alpine areas. In short, rather than reducing fire risk, the introduction of 'novel fuel management' techniques such as selective harvesting and grazing will generally generate a perverse outcome in terms of fire risk.

Managing many vegetation types in an unburnt condition has a number of significant advantages. Firstly, the relationship between decomposition processes, fuel accumulation and thinning through overshadowing all tend towards lower fuel levels in long unburnt areas. Secondly, especially in coastal areas, there is a strong relationship between the period since last fire and the ratio of fire tolerant and mesic (fire intolerant) species, with the former having much higher flammability and potential to support high intensity fires.

The carbon sequestration potential of long unburnt vegetation is much higher. Increasing the natural sequestration of carbon is now recognised as one of the few options for counteracting ongoing greenhouse gas emissions, and offers a chance to reduce the impacts of global climate change. Finally, and most significantly in the context of the devastation of the last summer, long unburnt areas tend to support higher biodiversity and structural complexity than recently burnt areas. Put simply, unburnt bushland along the East Coast of Australia is now a rare and precious natural asset that needs active protection through sensitive fire management practices.

RECOMMENDATIONS

That the Inquiry document:

1. The exceptional climatic and weather conditions that prevailed over the 2019/20 fire season and explain the clear relationship between those physical variables and extreme to catastrophic fire conditions.
2. The inherent limitations of available response techniques in the context of extreme to catastrophic fire conditions.
3. The limits of reducing total fuel loads on fire behaviour during extreme to catastrophic conditions, and the increased effectiveness of such measures in immediate proximity to vulnerable assets.
4. The ecological and bio-physical reasons why forestry, grazing and other large scale disturbances of natural landscapes generally have the effect of increasing rather than decreasing fire risk.

That the Inquiry recommend:

1. An intensification of government policy to ensure the reduction of national greenhouse gas emissions and increase the likelihood of international action to minimise the adverse impacts of global heating and other effects of climate change.
2. Amendments to the technical standards for the assessment of average fire risk, with corresponding need for higher construction standards for the resistance of built assets to fire, in response to the escalating trajectory in the average and range of fire danger indexes across NSW regions.

3. An increased focus on capabilities for early suppression, a large scale roll-out of the Remote Area Response Team model (subject to appropriate operating protocols) to address the increased potential for ignitions by lightning and other natural sources.
4. Increased resourcing of APZ and SFAZ (where immediately adjacent to vulnerable assets) treatment, including mechanical fuel reduction, as a primary risk mitigation strategy rather than broad-scale prescribed burning.
5. The conduct of further modelling on the economic and environmental costs of shifting to a more intensive regime of fuel management in APZ and those portions of SFMZ that are adjacent to vulnerable assets.
6. The expansion of the current permit system for hazard reductions on private land throughout the year and an increase in technical and operational support for such activities.
7. The adoption of a FFDI 100 standard as a minimum and a 1:100 year recurrence period for the purpose of performance considerations in planning for bushfire protection.
8. Further research into the association of increased lightning ignitions under Severe to Catastrophic fire danger ratings and the potential intensification of this correlation under climate change.

The preparation and planning by agencies, government, other entities and the community for bushfires in NSW, including current laws, practices and strategies, and building standards and their application and effect.

The following comments focus on the ways in which fire risk is incorporated into the statutory framework for assessing and approving development in NSW. The overall intent of the framework is to reduce the potential for bushfire to impact on local communities by factoring the potential for bushfire into the design of land release areas and individual lot developments. It includes procedures for assessing the intensity of fire risk associated with particular topographic features and vegetation types. It sets standards for the selection of fire resistant materials and residential design depending on the assessed risk of each location. The objective is that design, materials and construction techniques are chosen to provide a high degree of passive resistance to the impacts of wildfire.

A limitation of this statutory framework is that, in common with other construction and planning standards, it only applies to those new developments that are seeking approval through the planning system. There is no requirement for pre-existing development to be retrofitted to provide increased resistance to bushfire.

NPA strongly supports development controls as the most effective means of reducing the risk of bushfire to both communities and natural landscapes. Unfortunately, the current planning framework is extremely complicated, includes a range of contradictory measures, and is in urgent need of review if it is to meet the challenges of increased fire risk associated with drought and climate change. Our analysis is provided to assist the Inquiry to identify areas that are in critical need of improvement.

Recent history of bushfire protection in the NSW planning system

The current NSW legislative and policy arrangements for reducing risk from bushfires through the planning system was introduced in August 2002 following the devastating 2001/02 bushfire season. There are a series of core principles in the planning framework that are essential to the protection of natural assets, including the reserve system, as well as community safety, assets and well-being. These include the basic principle that individual land holders bear the onus for risk mitigation on their own properties. Land holders and developers cannot require adjacent land holders (whether public or private) to implement mitigations such as the construction of an APZ for the other's benefit. Instead, the planning principle is that mitigations such as APZ and construction to appropriate standards of fire resistance remain the responsibility of each individual land holder. The owner onus is balanced by overarching statutory requirements for all land owners to manage bush fire hazards and a hazard complaint process for situations where an adjacent land holder is believed not to be meeting those standards.

The suite of land-use planning and construction measures introduced in August 2002 included:

- Mapping of bush fire prone areas;
- Inclusion of bush fire prone land status on planning certificates;
- Requirements for development not complying with Planning for Bush Fire Protection;

- Requirement for a bush fire safety authority (section 100B of the RF Act) for subdivisions and Special Fire Protection Purposes; and
- Amendments to the National Construction Code to provide for a site assessment methodology and adoption of AS3959.

The package did not adequately address ongoing maintenance of assets constructed in accordance with these requirements, minimum standards for development consent conditions, or the certification of bushfire consultants. In the period since 2002, little has changed. Rather than strengthening the rigour with which provisions for bushfire protection are implemented through ongoing policy refinement it would appear that standards have become less rigorous than when first introduced.

Land-use planning is the most effective means of reducing risk arising from natural hazards. From one perspective, many environmental hazards only exist due to inappropriate development and use of inherently hazardous areas, whether due to landscape stability, flood prone, extreme weather events or bushfire. The challenge for land-use planning is to identify situations where those intrinsic hazards can be mitigated to a point where development and use can take place without unacceptable risk. The very real danger is assuming that all hazards can be mitigated to the point where every area is potentially suitable for human occupation.

Unfortunately, while there have been minor updates to instruments such as Planning for Bush Fire Protection (PBP) and Bush Fire Prone Land Mapping (BFPL), the overall system has not continued to evolve and improve in relation to fire mitigation. Most significantly, the system has been slow to adapt to the increasing incidence of Severe to Catastrophic fire conditions under the influence of climate change. Instead, it has become geared to gaining planning approval even in the face of unacceptable risk.

Environmental Planning and Assessment Act

Section 10.3 of the *Environmental Planning and Assessment Act* (EP&A Act) provides for mapping of bush fire prone lands. Mapping is subject to a guideline that is available through the RFS website.

The Victorian Bushfire Royal Commission recommended the introduction of increased buffers for grasslands in 2009. It is notable that there are still inconsistencies in the treatment of grasslands between the bushfire mapping guide and the latest update of PBP.

By way of recent example, the Shoalhaven Bush Fire Prone Land map failed to identify grasslands at Conjola Park as bush fire prone. Properties that were impacted by the fires over the last fire season will not be required to rebuild to the standards specified in PBP 2019 as the mapping continues to understate the risk associated with grasslands. Regular adjustment of PBP and other elements of the planning system is imperative if we are to avoid repeating the mistakes of the past.

The general provision for bush fire protection sits with Section 4.14 of the EP&A Act. However, Section 4.14 does not apply to an Activity under Part 5 of the EP&A Act.

There is a general requirement for the Council to assess an application to ascertain if it complies with PBP. In practice, most Councils refer the matter to the RFS as a matter of course or rely on a bushfire assessment by a person 'recognised by the RFS'.

The practice of bushfire risk assessments being conducted by persons 'recognised' by the RFS was intended as a short-term measure while the profession of bushfire consultants (referred to as BPAD) was being established. Tertiary training for BPAD professionals have been available since 2004, and consultants are generally members of the Fire Protection Association of Australia's BPAD scheme. However, there is no corresponding requirement for those RFS staff who assess applications to hold equivalent tertiary qualifications, despite the role of RFS in overseeing and regulating the work of BPAD consultants.

NPA is concerned that there is a lack of rigour in the regulatory process for the assessment of development applications. RFS expertise and resource should not be invested in routine planning matters, but should be focussed on strategic matters to ensure the safety of future Growth areas. The corollary is that Council's must assume a higher level of responsibility for the routine assessment of bushfire risk. One means of achieving this outcome would be for Council to be required to engage planning staff with post graduate qualifications in bushfire planning.

Rural Fires Act

Section 100B of the *Rural Fires Act* (RF Act) regulates the issue of bush fire safety authority (BFSA) for subdivisions and special fire protection purposes (SFPPs). A BFSA is subject to the integrated development provisions within the EP&A Act. Section 100B was designed to ensure that residential subdivisions and other vulnerable developments would be assessed by the RFS.

The *Rural Fire Regulations* provide for exclusions from the operation of s100B. The regulatory framework for these exclusions has not been updated and is now constrained by the need to map grasslands within BFPL maps. Other clauses are ineffectual, for example the reference to AS3959-1999 in sub-clause (c) and 'Levels of construction' rather than Bushfire Attack Levels (BAL).

Section 100B does not apply to matters assessed under Part 5 of the EP&A Act, including public schools, public hospitals or visitor facilities in national parks. During the 2019/20 fires 78 schools were lost or damaged at a stated cost of $20 million (Dept of Education media release). At least some of these developments were not referred to the RFS or Council, including the Wytaliba community public school which was rebuilt after the 2019 fires. This community suffered the loss of two lives and approximately 50 homes in addition to their school, yet the Department of Education was not required to meet the requirements of PBP or AS3959. This represents a serious gap in the planning framework that needs urgent attention.

Planning for Bush Fire Protection (PBP*)* was originally drafted in response to the events of 1994 bushfires. The scope of the initial 2001 document was limited, although it did address strategic planning and established an improved site assessment process for buildings, the precursor to the subsequent changes to AS3959 in 2009.

In 2006 PBP shifted towards the use of an 'acceptable solutions' approach. The site assessment integrated the planning requirements with the Level of Construction under AS3959-2009.

The combined effect of PBP and Section 100B is to set construction standards and planning setbacks for vulnerable uses (SFPPs). Unfortunately, the National Construction Code does not cover aged care, schools, health care and manager's residences. The Australian Building Codes

Board (ABCB) has strongly resisted the inclusion of such facilities under the ambit of bushfire protection. The ABCB appears to believe that planning will provide the acceptable levels of risk, whereas State planning bodies believe that existing construction practice must be appropriate for vulnerable developments.

2006 and AS3959 ensure that APZs and construction impacts should be retained within the boundaries of the development. However, since 2009 the practice has increasingly seen expectations that neighbours would contribute to risk mitigation through vegetation management, rather than focussing on bushfire protection measures within development envelopes. NPA is aware of situations in which the RFS has allowed developments to proceed on the condition of clearance on national parks. A recent example is the redevelopment of the former UTS Ku-ring-gai campus as a private school.

PBP 2019 brings both significant improvements and clear regressive provisions. On the positive side are the requirements for consideration of strategic planning issues. Of concern are the removal of fundamental protections such as gutter guards, non-combustible fencing close to walls and 'dedicated' water supplies. The consequences of removing the requirement for water supplies is well illustrated by Conjola Park, where the reticulated supply was cut off leaving no alternative source of water for property protection.

The PBP 2019 document prescribes one approach to site assessment and this is also used within the context of the National Construction Code (through a NSW State variation). The site assessment of both documents relies on fuel loads (understorey and total) as well as predicted fire weather conditions. Slope classes are now common, and at least there is integration between the planning and construction practice. However, the update applies lower fuel loads and has failed to update the modelling of fire weather conditions to account for the observed long term trends across NSW (see above).

The 10/50 Code

The 2013 10/50 Code (Code) is inconsistent with the principle of the owner onus for the costs and risks of development. The Code has brought significant and unintended consequences due to the hasty implementation and poorly considered policy implications. It sits at odds with the stated objectives of the RF Act which requires consistency with the principles of ecological sustainable development.

NPA recommends the revocation of the Code on the grounds that it:

- Provides an opportunity for the otherwise illegal clearance of non-hazardous vegetation to enhance development opportunities, views and property values;
- It is not linked to the process of bush fire risk management plans or community protection plans for an area which is designed to improve community safety;
- Relies on self-assessment by landholders in the absence of understanding of how to interpret the Code and its requirements.
- The Code may exceed the requirement of *Planning for Bush Fire Protection* and the Building Code of Australia where that development has already been assessed and conditions implemented under the provisions of section 4.14 of the EP&A Act (or using section 100B of the Rural Fires Act for a bush fire safety authority);
- Is indiscriminate in relation to vegetation of low threat and/or high State significance such as Sydney REP (now a deemed SEPP) Sydney Harbour Catchment 2005;
- The provisions are based on a 99 percentile of losses and do not actually relate to risk of house loss;
- It undermines the Bushfire Environmental Assessment Code (BEAC) and Hazard Reduction Certificate process; and
- It allows clearing of vegetation otherwise prohibited by a prior development consent, including significant trees or vegetation (e.g. Koala feed trees).

A major challenge for the Code is the on-going maintenance of development consent conditions. Councils are inadequately resourced to undertake compliance, and the provisions of section 66 of the RF Act are the principal means of enforcing APZ and fuel management.

The 10/50 code applies equally to those developments which have and have not been subject to a BAL assessment. If the provisions of AS 3959 and PBP were being applied consistently there is no need to use the 10/50 code for development.

The planning system has long been falsely accused as an impediment to 'reasonable hazard reduction activities'. Section 100C-100I of the RF Act regulates the clearance of vegetation

subject to the Bushfire Hazard Environmental Assessment Code (sections 100J-100O). The provisions which relate to the issuance of bushfire hazard reduction certificates are equivalent to complying development, where development standards are independently assessed. This is not the case for the 10/50 Code, which greatly expands the potential for significant harm or loss.

It is clear the RFS is not adequately resourced to issue bushfire hazard reduction certificates. Experience shows that the 10/50 measures are being used to enhance views or gain pre-development clearance in anticipation of new developments, such as subdivisions.

The current Bushfire Hazard Environmental Assessment Code (BEAC) allows asset protection zone clearance up to 40 metres for slopes greater than 15 degrees but not exceeding 18 degrees. Table 3.1 within the BEAC should be used with the first 10 metres removing tree trunks and the remainder of that table being subject to the same provisions as non-tree clearance.

NPA contends the 10/50 provisions should be repealed and that the removal of native vegetation should be assessed by appropriately qualified persons under the BEAC.

RECOMMENDATIONS

That the Inquiry recommend:

1. That the *Guide for Bush Fire Prone Land Mapping* (2015) be amended such that it only addresses planning and construction practice by the removal of Category 3 vegetation for the 10/50 clearance provisions, and that grasslands and rainforest have a 50 metre buffer consistent with PBP 2019 and AS3959-2018 requirements.
2. That the 10/50 provisions in the RF Act be repealed and that a land owner should be able to access the services of a suitably qualified BPAD consultant, who is also qualified under the *Biodiversity Conservation Act*, to issue a bush fire hazard reduction certificate. This would be similar to the normal complying development and provide parallel arrangements to that within the planning system.
3. That the State Infrastructure SEPP be amended to require all development that is listed in s100B of the RFA be required to obtain a BFSA and meet the requirements of PBP and AS3959.

Preparation and planning for future bushfire threats and risks.

Coordination of hazard reduction

A number of senior federal and NSW political figures have suggested that future hazard reductions should be planned and implemented by a single centrally controlled and accountable authority. This proposal demonstrates a remarkable ignorance of the existing scope and powers under the NSW *Rural Fires Act*, which already allocates such control to local Bushfire Management Committees and the Rural Fires Commissioner.

We consider that the scope and objectives of the *Rural Fires Act* are sound and provide Ministers and Cabinet with a high level of control and oversight of strategic priorities, funding and reporting. In NPA's view the major shortfall of the current legislation is the lack of a clear process for the development and approval of an overarching state-wide strategic framework for risk mitigation activities. NPA supports the NCC's proposal for a new legislative obligation to prepare a state-wide bushfire risk management plan.

It is clear that the underlying reason for the demands for a wholly new authority is the claim that park management agencies have an anti-hazard reduction ideology and their views dominate the wishes of the fire authorities. NPA membership and staff includes several individuals with deep involvement in park agencies, all of whom share the view that hazard reduction is a core component of conservation management. We draw the Inquiry's to the data collated by the NCC to the disproportionately high contribution by the NPWS to the total area subject to prescribed burning over the last decade and the fact that the organisation has consistently met or exceeded rolling average performance targets. It is clear that there are ideological underpinnings to the view that the organisation is not meeting the standards set by successive Ministers and Governments. The even more remarkable facet of this theory is that it would require complicity within the leadership of the Rural Fire Service, the organisation which ultimately determines prescribed burning and other hazard reduction targets across NSW.

The above is not intended to suggest that there is no opportunity to improve community, asset and ecological outcomes through the investment of additional resources into hazard reduction. NPA supports the intensive management of APZ and fuel treatment within SFAZ lands immediately adjacent to assets, including vegetation communities and threatened

species habitats that are vulnerable to impact of high intensity fire. Our point is simply that the empirical data contradicts any assertion that there is a deliberate avoidance of risk mitigation works in the protected area network. More could be done with additional resources. Unfortunately, NPA has observed substantial declines in the staffing and operating budgets for the NSW National Parks and Wildlife Service over the last decade. This ongoing loss must be reversed to enable sufficient capability across all land management functions, especially fire management.

One of the key challenges of implementing hazard reduction works on the interface with assets, particularly urban residential properties, is the inherent complexity of either safely inserting fire (without damage to adjacent property or risk to firefighters) or mechanical fuel removal in areas with limited vehicular access, highly uneven surfaces and in many cases steep slopes. In many areas, notably the rocky landscapes of the Sydney basin, effective reduction of fuel loads is highly resource demanding and can only be conducted over relatively small areas in any operational period.

For this reason (amongst others), the NPA is highly supportive of the allocation of guaranteed funding specifically tied to asset protection objectives. Such funding would enable the employment of agile teams with the capacity to shift from mitigation to fire response activities through the seasonal cycle. The establishment of properly resourced teams would ensure regular and appropriate treatment of APZ and selected SFAZ across all public land tenures.

NPA also supports mechanisms for such teams to be available to work on private land on a cost recovery basis, with government subsidies depending on the public benefit of the proposed mitigation works. This arrangement would be particularly beneficial in metropolitan and coastal regions where resource poor Local Aboriginal Land Councils own substantial areas of peri-urban bushland.

NPA's preference would be that a proportionate component of the additional resourcing would be allocated directly to the NPWS for the purpose of enhanced risk mitigation with audit and state-wide reporting on program performance by the Rural Fire Service.

Bushfire planning

There is a significantly high diversity in 'natural' fire regimes across NSW, from highly fire prone areas such as Wollemi and the Pilliga to the infrequent by intense fire regimes in the Southeast Forests and Kosciuszko to the Gondwana rainforest parks where fires occur at periods in the range of centuries or millennia. Our hazard reduction strategies need to be carefully calibrated to the ecological needs of these different situations.

The management of those areas of the state's fire prone lands that are gazetted as conservation reserves needs to meet multiple objectives, including the minimisation of risk to adjacent communities and the avoidance of fire regimes that adversely impact on the natural and cultural heritage values of the individual reserve.

The challenge for conservation reserves is to meet the obligations for risk abatement within a planning framework that also meets the multiple environmental, recreational and heritage objectives for a specific park. The adopted planning framework is the Reserve Fire Management Strategy (RFMS), a document that establishes fire management strategies and actions for each individual park in NSW.

A key deliverable for each RFMS is to develop a sequence of hazard reduction treatments that maintains vegetation communities within ecologically determined parameters for fire periodicity. This is typically a return interval for treatment of 8-25 years depending on community. Much shorter return periods are permissible in APZ.

Another critical element of RFMS is that they identify both built and natural assets that require protection through the construction of APZ and/or other hazard reduction measures. This includes areas such as habitats for fire sensitive fauna and flora populations or fire sensitive habitats such as rainforest gullies.

The NPA is highly supportive of the RFMS approach and would recommend that the core elements of the approach be extended beyond reserve boundaries and incorporated into the proposed State-wide Bushfire Risk Management Plan. Our preferred outcome would be a totally integrated approach to risk planning that provides site specific levels of protection for natural, community and built assets across all tenures.

A major challenge for fire management over the coming decade will be to ensure that enhanced risk mitigation measures, including an intensified management of APZ and SFAZ, take account of the environmental impacts of the 2019/20 season. In short, these have seen two thirds of the reserved lands along the NSW coast and Great Dividing Range revert to a single post fire age class. The extensive fires are exacerbated by the tripling of land clearing rates in NSW since the 2016 changes to vegetation laws, with the result that we now have the smallest ever area of native vegetation cover across the state. The combination of these two factors means that unburnt (i.e. in this current fire season) vegetation is now genuinely rare across NSW.

Many native species are now at risk of local or species extinction as a result of fire mortality or the loss of appropriate habitats. Those areas of unaffected native vegetation, the unburnt parks offer the best hope for the survival of the many species that have been pushed to the edge of extinction by these fire events. The very real risk is that our efforts to ensure that there is no repetition of the 2019/20 could compromise the survival of these critically important refugia, the state's 'biodiversity arks'.

NPA is not suggesting that hazard reduction should be wholly excluded from those reserves that were not significantly impacted by the 2019/20 season. We recognised that there will be situations where risk mitigation is warranted in these reserves. However, it is essential that the Inquiry find a balance between such mitigations and the protection of the unburnt refugia that are now one of our most important and vulnerable assets, without which NSW will not meet legislative, national and international obligations to protect or enhance the state's biodiversity.

NPA suggests that the most appropriate means of reconciling this issue is for the Inquiry to expressly state that the overriding objective of fire mitigation, the protection of community life and assets, includes the protection of natural assets. Moreover, those natural assets are not restricted to threatened and endangered species, but include vegetation age classes that have become rare in NSW as a result of the 2019/20 fire season.

Fire management in remote areas

The 2019/20 fire season demonstrated that under certain weather conditions lightning can make a significant contribution to the ignition and spread of fire across the landscape. It is

notable that the elevated geological and topographic features that have the greatest propensity to attract multiple lightning strikes, landscapes such as the Australian Alps and Blue Mountains, are predominantly within the protected area network. By their nature such elevated areas are difficult to access and provide limited natural barriers to the progression of fires once established. For these reasons the operational assets that are designed for property protection are generally ill suited for remote fire-fighting.

There has been a strong focus over this fire season on the role of very large air tankers in suppressing fire in otherwise inaccessible areas. Less attention has been paid to the capabilities provided by specialist remote area fire teams, although NPA understands that such crews were successful in extinguishing multiple ignitions over 2019/20. Subject to appropriate safety protocols, including the retention of assigned air support to emergency extraction, we regard the development of additional capabilities of the NPWS and Rural Fire Service as essential for management of fires in remote landscapes. It is notable that the rare instances where fire operations were approved for the specific purpose of protecting highly vulnerable natural assets, including the Wollemi Pine, were entirely dependent on such remote fire-fighting capabilities.

Given the predictions that climate change will result in a high intensity of lightning strikes, combined with fact that the 2019/20 have driven even more species to the brink of extinction, the NPA regards additional resourcing to support remote area fire-fighting to be a critical priority for the future management of fire across the protected area network.

RECOMMENDATIONS

That the Inquiry document:

1. The performance outcomes over the last 10 years of hazard reduction works across the major categories of bush fire prone lands across NSW, including national parks, state forests, crown lands, Council controlled lands, lands zoned for agricultural purposes and other private lands, using the targets established in the State Plan, individual BFMC Operations Plans and Reserve Fire Management Strategies as the basis of assessment.
2. A summary of the RFS Hazard Complaints system over the last ten years by land tenure as above.

3. A summary of impacts of the 2019/20 fire season on natural assets including threatened species, threatened ecological communities, vegetation formations and vegetation age classes

That the Inquiry recommend:

1. The insertion into the *Rural Fires Act* of an obligation to prepare a state-wide bushfire risk management strategy to set overall objectives for fire mitigation and provide an overall framework for setting performance strategies, targets and measures.
2. That this strategy be publicly exhibited and be subject to extensive consultation prior to adoption by the NSW Bush Fire Coordinating Committee.
3. That natural assets be expressly included in bushfire risk planning including strategies for the protection of those natural assets.
4. Increased financial allocations to support the state wide expansion of the remote area fire fighting capabilities of the NPWS and Rural Fire Service.

Conclusion

NPA members and supporters share the deep trauma inflicted by the 2019/20 season. Many members were personally impacted by the loss of their homes, the disruption of local communities or operational involvement in the fire response. Our members also share a deep concern about the impact of the fires on the natural and cultural treasures of NSW, including the reserve system. Fires will continue to play a pivotal role in shaping our natural landscapes, however there is an abiding concern that the adverse impacts of the 2019/20 fire season on rainforest, wet forests, alpine habitats will require generations to recover, and some species may even have been pushed over the brink into extinction

NPA recognises that our communities and government need to take decisive steps to reduce the impacts of future fires, especially in the context of the deteriorating weather and climate conditions associated with continuing greenhouse gas emissions. Our view is that the way forward lies in improving our custodianship of the natural world, especially the increasingly rare areas of long unburnt vegetation. It would be truly perverse if our collective response was to further decimate these precious biodiversity arks, compromising the resilience of our

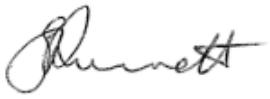
unique biodiversity and reducing the landscapes' capacity to capture the atmospheric carbon that threatens our collective future.

We recognise the difficult balance that the Inquiry must walk. Our final recommendation to you offers a simple pathway to achieving that balance:

That the NSW Government adopt the protection of natural assets, including native species, their habitats and ecosystems, as a core objective for all future fire mitigation, planning and response.

The NPA appreciates the opportunity to make this submission and would welcome the opportunity to discuss any of these issues with the Inquiry. We note that NPA President, Dr Grahame Douglas, has significant expertise in fire mitigation and regularly appears as an expert witness in fire related planning matters. NPA can be contacted through Executive Officer Gary Dunnett at [redacted] or on [redacted].

Yours sincerely



Gary Dunnett
Executive Officer
National Parks Association of NSW
protecting nature through community action

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