

NSW Submission – March 2020

Author: Pierre Louys [REDACTED]

Background

On the 30th of January 2020, Premier Gladys Berejiklian announced an independent expert inquiry into the 2019-20 bushfire season to provide input to NSW ahead of the next bushfire season. Dave Owens, former Deputy Commissioner of NSW Police, and Professor Mary O’Kane AC, Independent Planning Commission Chair and former NSW Chief Scientist and Engineer, will lead the six-month inquiry, which will review the causes of, preparation for and response to the 2019-20 bushfires.

The 2019-2020 bushfires in New South Wales have been unprecedented in their extent and intensity affecting rural communities (including loss of lives and properties) and disrupting infrastructures (electricity, communications and transport). Notwithstanding their socio-economic impact, the fires in NSW had burnt 5.3 million hectares (6.7% of the State), including 2.7 million hectares in national parks (37% of the State’s national park estate). As of 10 January 2020, the bushfires had impacted on the habitat of at least 60 threatened species listed under the Environment Protection and Biodiversity Conservation Act 1999. More than 24% of all koala habitat in eastern NSW was within fire-affected areas. The total area of high or very high suitability koala habitat affected by fire in eastern NSW was more than 19%. An initial analysis has identified that more than 95% of recorded locations for threatened plants has been impacted.

Prescribed (or planned) burning is the use of controlled fires to reduce fire hazard. The underlying logic is that lower fuel loads reduce dangerous fire behaviour, making it easier for firefighters to control blazes. The fact is there are many constraints to the effectiveness of prescribed burning, and biodiversity and other "green" considerations are often secondary issues.

The NSW independent expert inquiry into the recent bushfires is in progress and is looking at:

- Preparation and planning for future bushfire threats and risks.
- Land use planning and management and building standards, including appropriate clearing and other hazard reduction, zoning, and any appropriate use of indigenous practices.
- Appropriate action to adapt to future bushfire risks to communities and ecosystems.

There is no doubt in my mind that prescribed burning will be part of the inquiry recommendations, as well as the revival of aboriginal ‘cultural burning’ practices in NSW.

The state government has a unique opportunity to encourage and support this revival by implementing the right framework and associated financial incentives.

The case for prescribed burning as appropriate action to adapt to future bushfire risks
 The Australasian Fire and Emergency Services Authorities Council (AFAC) defines ‘prescribed burning’ as:

The controlled application of fire under specified environmental conditions to a pre-determined area and at the time, intensity, and rate of spread required to attain planned resource management objectives. It is undertaken in specified environmental conditions.

Hazard reduction is the process of removing vegetation that would fuel a fire – the “hazard” – through burning, slashing or grazing. It is one of the ways state governments and landowners prepare for the next bushfire seasons.

Statistical trends have demonstrated the evidence of prescribed burning effectiveness in bushfire mitigation.

Comparison of forest fire activity in south-west WA before and after the revision of fire management in response to the disastrous 1960 – 61 bushfires (from Luke and McArthur 1978, Chapter 18, pp. 244 – 245)

	Pre-1960-61	Post-1960-61	Change (%)
Average area of prescribed burning	148,000 ha/yr	360,000 ha/yr	+ 140%
Average number of bushfires	350 per year	290 per year	- 17%
Average area burnt by bushfire	24,000 ha/yr	7,000 ha/yr	- 250%

Table 1 showing prescribed burning effectiveness as a tool – source AFAC report

However, experts and fire practitioners have warned that reliance on statistics to draw strong conclusions can also be problematic if it ignores other factors which could be affecting the results.

Factors affecting the outcome of prescribed burning include increased urbanisation, changes in the level of community fire awareness, and/or prevailing climatic conditions over the assessed period.

Nevertheless the examples cited above certainly provide indicative support for the contention that **increased levels of prescribed burning reduces the extent and impact of unplanned bushfire.**

The case for “cultural burning” as a subset of prescribed burning

In south-eastern states, ‘cultural burning’ is in its infancy compared with the northern states of Australia. In northern Australia, from 2006, indigenous organisations with government partners and industry representatives engaged in a dialogue to off-set greenhouse gas emissions through “savanna burning” land management practices.

By 2019, there were over 70 savanna burning projects across northern Australia earning million of dollars. This momentum lead to a range of socio-economic benefits beyond employment and health.

Savanna burning programs have provided income for Rangers and necessary tools and equipment, have provided additional skills such as GPS mapping, and of course reduced bushfires risk during the dry season.

The success of the savanna burning can be attributed not only to carbon credits provided by the ERF scheme but also to the participation of scientists and aboriginal Rangers in its development and the fact that aboriginal and scientific knowledge were combined to establish bio-cultural indicators (in a form of a seasonal calendar).

'Cultural burning' in south eastern Australia has limited potential for carbon credits due to difficulties in calculating the amount of soil carbon present and affected by fire in the forest ecosystems of South Eastern Australia and subsequently the absence of an ERF methodology for this environment.

'Cultural burning' value must be found beyond the carbon emissions reduction.

'Cultural burning' programs in NSW must adopt a collaborative approach involving the right partners if it wants to succeed like the savanna burning in the north and if it wants to revive traditional culture (including languages), improve ecosystems, and reduce fire hazard.

'Cultural burning' is empowering aboriginal communities who **care for Country** and benefits the all of Australia.

In NSW there is a diversity of Indigenous cultural fire management enterprises, partnerships, projects and activities which need to be validated and supported financially in a similar way that made the savanna burning successful in the north.

There are some innovative examples where Indigenous groups and crews undertake burns using Indigenous landscape burning techniques, with environmental, cultural and sometimes commercial gains for both landowners and the Indigenous people. This can include potential savings in weed control, stronger growth in native pastures, carbon abatement and reduction in fire fuel loads. In other cases non-Indigenous groups and land managers engage Indigenous experts and Indigenous fire knowledge to inform their landscape burning programs.

Cathy Robinson (CSIRO) et al. produced a report in 2016 "Report on the National Indigenous Fire Knowledge and Fire Management Forum" which was intended to summarise key existing lessons and inform protocols that could be used to guide the incorporation of Indigenous Knowledge in fire management and carbon abatement programs across Australia.

The report identified institutional barriers and key challenges for Indigenous communities in their effort to develop and sustain on-country fire enterprises. **Government regulations, permits, political support were all mentioned as key issues that restrict Indigenous communities engaging in carbon markets, providing environmental services through fire management contracts.**

Three key consequences were noted from restricted resources, regulations and legislation.

- 1) Indigenous fire managers struggle to adequately resource training, re-training, delivery and assessment efforts to ensure effective and safe fire management activities
- 2) Indigenous fire managers are constrained to undertake adaptive fire management regimes that are sensitive to the local biophysical and social-cultural/legal conditions

3) Indigenous fire managers find it difficult to trust fire management partners because they find that short funding cycles and fluctuating program support can limit achievement and success of long-term fire management partnerships

In south-eastern Australia (this includes NSW) prescribed burning is predominantly managed by government agencies for the purpose of protecting human lives and properties, assets and infrastructures. There are few demonstrated outcomes of cultural burning from both scientific and socio-economic perspectives. The Banbai Rangers “cultural burning” project was designed to address this gap by using a collaborative approach.

The project used cross-cultural science to monitor the impact of cultural burning on a culturally significant indicator (bio-cultural indicator) – the short-beaked echidna.

The project assessed how echidnas responded to low-intensity mosaic burns on IPA compared with moderate-intensity burns on government land.

The project explored the implications of this research for future fire and conservation.

The Banbai Rangers stated that they benefited from cross-cultural research in a variety of ways, including conservation of echidna through appropriate fire management, developing skills and knowledge and facilitating inter-generational transmission of culture.

The Banbai Rangers identified culture as a key driver in their land management aspirations.

The Banbai Rangers experience clearly shows that ‘cultural burning’ outcomes can be measured and validated using bio-cultural indicators and a ‘strength-based approach’ principle and therefore could attract “fire credits” associated with financial incentives.

The case for “fire credits”

It is unlikely that so-called “fire credits” could use similar mechanisms than carbon credits. Carbon credits are created (in Australia) by a range of approved activities and bought by polluters on the carbon market to compensate for their emissions. These transactions take place independently to each other, as there could be carbon credits generated and not bought, or there could be more demand than supply.

It is also unlikely that “fire credits” mechanisms could be established without proper consultation with the key stakeholders, that is the aboriginal practitioners and Rangers, the fire experts and ecologists, the relevant government agencies and the land managers be they private or public landowners.

As indicated above, “fire credits” can only be granted after due diligence process which involves ‘measurement’ and report of the fire activity and ‘verification’ of projected outcomes by an accredited agent under the principles of the core benefits framework. However it is important that the initial development period be supported by other incentives (mostly provided by the state) to overcome current regulation and legal constraints, to support training and field activities leading to the development and establishment of “fire credits” mechanisms and end-results (additional social, economical and environmental).

Such effort must not be delayed as the next fire season is already predicted to be at least as dangerous as the last one.

Conclusions

'Cultural burning' being a subset of prescribed burning produces the same results in terms of hazard reduction and biodiversity improvement. 'Cultural burning' carried out by aboriginal practitioners and Rangers yields additional benefits (core benefits) which positively impact on local communities and Australia's future as a nation.

There is an opportunity to be recognised at the state level as part of the NSW independent expert inquiry into the recent bushfires.

It is my hope that the experts will see how "cultural burning" and the development of "fire credits" mechanisms will fit in:

- Preparation and planning for future bushfire threats and risks.
- Land use planning and management and building standards, including appropriate clearing and other hazard reduction, zoning, and any appropriate use of indigenous practices.
- Appropriate action to adapt to future bushfire risks to communities and ecosystems