

Submission to the Royal Commission into National Natural Disaster Arrangements

EXECUTIVE SUMMARY

This submission comes from a collective of Indigenous and non-Indigenous academics primarily from the University of Melbourne, but also from Deakin University and Griffith University. A full list of contributors is included at the end of this submission. We are experts in a range of facets around Indigenous fire usage (Cultural Burning), Indigenous Land Management and livelihoods, and fire behaviour and ecology. We are experts in a range of fields from linguistics to sustainability, education to geography and forest management.

The primary aim of this submission is to demonstrate the need to invest in Indigenous Land Management, caring for country and cultural burning practices. Governments across Australia must work in partnership with Indigenous communities and Indigenous knowledge holders to care for Country, in order to build Australia's resilience to natural disasters including bushfires.

This submission primarily responds to point (g) of the Royal Commission's Terms of Reference which calls for inquiry into "any ways in which the traditional land and fire management practices of Indigenous Australians could improve Australia's resilience to natural disasters". The submission also addresses points (a), (b) and (f) by outlining ways to develop greater national co-ordination around land management and hazard reduction, preparedness for natural disasters and ways to build resilience to changing climatic conditions.

RECOMMENDATIONS

We recommend the Commonwealth, in conjunction with States and Territories:

1. **expand the Working for Country program nationally to support Indigenous-led Ranger Programs across all State and territory governments to conduct Cultural Burning;**

This will require governments to:

2. fund Traditional Owner groups to develop and apply locally appropriate approaches to land and fire management and to enable reacquisition of cultural knowledge;
3. fund research that will advance the application of Indigenous land practices for reducing risk of catastrophic fires to people and the environment'.
4. assess and review legal and administrative barriers restricting access to land and implementation of cultural fire and land management practices;
5. support a long-term public education campaign to change the narrative and understandings of fire, including through schools;
6. coordinate public investment in land management programs and facilitate private sector investment, for example through 'resilience bonds';

HOW CAN CULTURAL BURNING BUILD AUSTRALIA'S RESILIENCE TO NATURAL DISASTERS?

Indigenous Australians have managed Australian landscapes for more than 65,000 year using a highly effective holistic land management practices and a suite of Country-specific management regimes that have persisted through, and have been shaped by, massive environmental changes (Pascoe 2014; Griffiths 2018). All Aboriginal land management practices have been the result of intimate knowledge of Country

developed over many, many millennia of careful observation, continual interaction and active custodianship (Olsen & Russell 2019). Arguably the most profound influence of Indigenous Australians on the Australian environment was achieved through Cultural Burning. Empirical and ethnographic data clearly demonstrates that the Australian environment of 1788 was radically different to the landscape we see today, and that this difference can be seen as largely as a result of the negation of cultural burning regimes (Gammage 2011; Fletcher et al. in press). This landscape change aligns with significant impacts of colonisation, which have prevented Indigenous Land Management and cultural burning across the region.

Cultural Burning is a part of a broad array of Indigenous Land Management approaches. It is a method of managing Country using fire which has been employed for millennia in Australia. Whilst the Aboriginal nations in Australia are incredibly diverse, cultural management practices are always place-specific and holistic, ensuring the proliferation and protection of all living things on Country. These holistic systems therefore do not allow applications which take them out of their holistic context which is embedded in cultural practice and custom and cannot be separated from its place- and culture-specific foundation. It is for this reason that management practices such as cultural burning must be managed and led by Aboriginal groups whose vast Country-specific knowledges and laws of custodianship ensure the efficacy of these modes of management. It is a method of fire use that varies according to **local Indigenous custom and biophysical context**. Broadly, Cultural Burning is a holistic approach at landscape management with fire throughout the annual cycle that is based on an intimate understanding of local place and custom, and which is attuned to changes local environmental conditions and cues.

Cultural Burning is a method of landscape management that has many purposes and benefits, of which fuel reduction is but one. Fire and its use are embedded in a wide range of facets of Indigenous culture and are intimately connected Indigenous livelihoods and wellbeing across Australia. This is clear from the data demonstrating an increase in psychological and physical health of Indigenous communities that have been empowered to return Cultural Burning to their Country.

The wide implementation of Cultural Burning in Australia faces knowledge, societal, political and logistical barriers. Current international policies and programs advocate the involvement of local and Indigenous people in sustaining biodiversity and culture (Díaz et al. 2019), both of which face significant declines in Australia (Neale, T & Vincent, E, *Instabilities and Inequalities: relations between Indigenous People and Environmentalism in Australia today*, 2016). The implementation of a national approach to policy directives has been demonstrated to deliver consistent on-ground mutual benefits for science and Indigenous communities (Ross et al. 2011; Ens et al. 2016). There is an urgent need to develop a National policy on Indigenous Land Management in Australia in true partnership with Aboriginal communities as a means to address the significant environmental and social challenges we face. Finding means to mitigate natural disasters such as catastrophic bushfires will require a suite of measures because there is a suite of causes. We assert that empowering and resourcing Aboriginal cultural burning practice will influence and positively impact a range of objectives, such as unhindered fuel accumulation, rapid rates of species loss, and Indigenous social and economic disadvantage.

Policies promoting blends of biological and cultural conservation should share the following objectives:

1. involve Indigenous Peoples in biodiversity conservation;
2. maintain and develop Indigenous knowledge and culture; and
3. recognize and promote Indigenous natural and cultural resource management and traditional knowledge (Ens et al. 2016).

The Royal Commission into National Natural Disaster Arrangements presents a unique opportunity to set up national policies aimed at formalising the role of Indigenous people in the management of Australia's environment to achieve these goals and to avoid mitigate against future climate-driven catastrophic bushfires the like of which we experienced in the Black Summer.

OUR PROPOSAL: IMPLEMENT CULTURAL BURNING ACROSS THE COUNTRY

Recommendation 1: expand the Working for Country program nationally to support the development of Indigenous-led Ranger Programs across all State and territory governments to conduct Cultural Burning.

We propose that the most effective means of implementing a nation-wide Cultural Burning strategy that respects the locally embedded nature of Indigenous Land Management is via the existing Federally funded Working for Country Ranger Program.

Effective implementation of Indigenous Land Management to improve preparedness and resilience of Australia to natural disasters requires a coordinated national framework that provide guidelines and accountability through common national standards. Working in partnership with Indigenous communities and Indigenous knowledge holders to care for Country, including through Cultural Burning and other land management practices will build Australia's resilience to natural disasters. Country in Australia has been predominantly managed without empowering or reflecting Aboriginal and Torres Strait Islander peoples' cultural practices, voices or aspirations. For too long the vast knowledge of Country held by communities and the potential which exists through empowering Aboriginal responsibilities of careful and active custodianship have not been effectively embraced within mainstream systems of management.

Thus, it is fundamental that an implementation of Cultural Burning be planned, led by, undertaken and administered by Indigenous groups that are local to the site of practice. Effort, then, needs to be made to resource and support the formation of Indigenous bodies, such as the highly successful Ranger programs across Australia. Further, resources must be allocated for bolstering and requiring Traditional Knowledge in places where the effects of colonisation have resulted in a quiescence of local knowledge and practice. It must be noted that this perceived quiescence across South Eastern Australia has largely been a problem of resourcing. Communities and Elders still hold much information which is not widely known or shared, and in many areas there has never been Indigenous-led initiatives which allow a safe place for knowledges to be activated. Transformational change is required in the way Country is being managed and we assert that resourcing and partnering with Aboriginal knowledge holders to reinvigorate Cultural Fire practice, ensuring empowerment and not appropriation, represents a necessary and powerful piece of the suite of measures required for transformational change.

Indigenous Ranger Programs: The Indigenous Ranger Program funded under the Federal Government's Working on Country program combines Indigenous traditional knowledge with modern techniques to protect and care for the land and sea. As of June 2018, the Working on Country program supports 118 ranger groups across Australia and funds over 831 full-time equivalent jobs – that's more than 2500 jobs when broken down into casual, part-time and full-time positions. Indigenous rangers are at the frontline of nature protection Australia-wide and these programs are delivering transformational benefits for people at the same time.

BENEFITS

CULTURAL BURNING AND BUSHFIRE MITIGATION

Improving Australia's resilience to bushfires requires effective to manage across the entire landscape. High fuel loads, and high connectivity between ground fuels and canopy fuels (the shrub layer), allow fires – which usually start on the ground – to enter forest canopies, resulting in catastrophic and fast spreading bushfires under the right set of climate-dependent conditions. Cultural Burning has a key role to play in suppressing this shrub layer, thus disconnecting the ground and the canopy fuel loads, providing a significant buffer that improves the resilience of Australia's flammable forest ecosystems to catastrophic climate-driven bushfire disasters **[ToR (g) and ToR (f)(i)]**.

A by-product of the application of local-scale Cultural Burning is a landscape-scale reduction in fuel loads that aids in the mitigation of catastrophic bushfire **[ToR (g)]**. The power of Cultural Burning for reducing the incidence and frequency of catastrophic bushfire is demonstrated most clearly in the results of the West Arnhem Land Fire Abatement program, in which Indigenous owned and led Ranger programs worked with government agencies and scientists to develop a highly sophisticated and effective reintroduction of Cultural Burning to a large part of Arnhem Land, subsequently reducing the frequency and magnitude of large bushfires when fuel was a limiting factor **[ToR (g) and ToR (f)(i)]**.

In southeast Australia, the first recorded bushfire was in 1851, 30 years following the last recorded massacre of Indigenous Australians (the putative final episode of an 80 year period of violent extirpation of Indigenous people from southeast Australia) living in proximity to what is now the largest and broadly contiguous expanse of highly flammable temperate eucalypt forest. Ethnographic accounts of this landscape from the late 1700s through the early 1800s depict a predominantly open grassy landscape free from shrubs under indigenous management. These accounts are supported by data, which demonstrates a clear increase in woody fuel following the removal of Indigenous management from what are now southeast Australian forests. Thus, the return of Cultural Burning to these landscapes represents a tangible and proven means of reducing landscape fuel loads across not only southeast Australia, but in all woody ecosystems that face threat from catastrophic (i.e. uncontrolled) bushfire **[ToR (g) and ToR (f)(i)]**.

Importantly, the intimate and reflexive underpinnings of Cultural Burning make this practice well suited to be adaptable to changes induced by current and future climate change. The nuanced use of phenomenological cues by traditional fire practitioners (Ryan 2013) places these skilled knowledge holders in a unique position for managing Australian environments with fire. In contrast, remote sensed and climatically derived indicators of where and when to conduct hazard reduction burns are limited in their scale of application (Keane et al. 2001). Most often these are applied at a coarse scale that ignores local biophysical variations across a landscape. Local-scale management by Indigenous Rangers, in contrast, provides real time data that represents a powerful framework for planning and executing fire in a landscape (Yibarbuk et al. 2001). Moreover, Indigenous Rangers gather a suite of data that allows for continual monitoring of biodiversity values, wildlife management, habitat protection and restoration **[ToR (f)(ii) – discussed below]**.

CULTURAL BURNING AND BIODIVERSITY

Australia faces one of the highest rates of mammal extinction on Earth (Woinarski et al. 2015), a trend that is at least partially a result of the discontinuation of Cultural Burning. The best way to sustain biodiversity is through variation in fire regimes tailored to suit the needs of particular ecosystems and

species. Indigenous fire knowledge is built on detailed and context-specific knowledge of plants, animals and landscapes – and so is uniquely placed to achieve biodiversity conservation and other environmental objectives. There are fast-growing examples in the scientific literature that demonstrate the improved biodiversity effects of Cultural Burning on Australian landscapes. Much of this increased biodiversity depends on the small scale and patchiness of burning that can only be achieved through an intimate, local scale and reflective management regime like Cultural Burning (Fitzsimons et al. 2012; Kelly & Brotons 2017; Bird et al. 2018) **[ToR (f)(ii)]**.

OTHER BENEFITS OF CULTURAL BURNING

More than just providing a means for managing fuel loads, the holistic nature of Cultural Burning means that there are a series of “co-benefits” that arise from implementing this style of management. Prime among these are:

1. a reconnection to Country for Indigenous people who have, in many cases, been forcibly divorced from their Country (their “Mother”) for generations;
2. cultural empowerment and recognition of Indigenous people being valued and respected for their knowledge;
3. a revitalisation of culture and language and
4. the economic empowerment of Indigenous communities via a ranger program the provides employment via, for example payment for ecosystem services (Robertson 2019).

These factors have seen measurable improvements in the livelihoods and wellbeing of Indigenous peoples in places where Cultural Burning has been reinvigorated and this represents a key strategy for improving the living conditions of one of Australia’s most disadvantaged demographic groups. Other “co-benefits” of Indigenous-led land management initiatives include: improved family and community structures and functions; social cohesion; lower substance abuse, crime and violence levels; increased childhood education engagement and attendance; increased vocational training; enhanced external engagement and networking; and delivery of government social objectives (Barber & Jackson 2017). For Indigenous-led land management strategies to deliver these co-benefits, local narratives should emphasise environmental holism and the interconnectedness of people, culture, Country, and ancestry. Further, clear reporting and accounting of a consistent set of co-benefit types/values at the National scale should be implemented (Barber & Jackson 2017).

WHAT ARE THE BARRIERS TO THE IMPLEMENTATION OF CULTURAL BURNING?

Lack of funding for Traditional Owners to exercise knowledge:

Recommendation 2: fund Traditional Owner groups to develop and apply locally appropriate approaches to land and fire management and enable reacquisition of cultural knowledge
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The successful implementation of Cultural Burning programs across northern Australia has been supported by payments for reducing greenhouse gas emission through industry partnerships or through the Federal Governments’ Emissions Reduction Fund (ERF). This has supported communities to implement cultural land management practices but also to retain and restore cultural knowledge and transfer this knowledge to future generations. Similar programs are required for southern Australia.

Federal and state governments can work together to support Indigenous knowledge development. For example, recently agreed Regional Forest Agreements commit governments to empowering Traditional

Owners in forest management on their country and implementing a Cultural Landscapes Strategy and Country Plans.

In Victoria, the Traditional Owner Cultural Fire Strategy and new partnerships between Traditional Owners and land management authorities are helping reintroduce cultural fire and support land management aspirations of Traditional Owners. Increased cooperation between forest and fire managers and local Aboriginal groups can ensure cultural values are identified and protected. Knowledge of cultural values can be documented and controlled by Indigenous groups and intellectual property rights recognised and secured.

New knowledge forums are developing and should be fostered and strengthened. For example, the south-eastern Australia Aboriginal Fire Forum held in Canberra in May 2018 brought together local and interstate Aboriginal people and non-Indigenous fire managers to share their knowledge and experiences of cultural burning (Smith et al. 2018a). Aboriginal fire and land management will require land management agencies to generate new forms of understanding and adopt new modes of interaction with Indigenous communities to create enduring personal and professional relationships based on trust and shared understanding (Morgan et al. 2020).

Lack of research or scientific evidence to support Indigenous land practices

Recommendation 3: fund research which will provide evidence of the impact of Indigenous land practices on reducing risk of natural disaster

Previous enquiries have noted the lack of peer-reviewed research regarding contemporary Aboriginal peoples' engagement in bushfire management in southeast Australia, including Cultural Burning (Stanley et al. 2016). In practice, this lack of regionally specific research is an obstacle to practice, as agencies look to peer-reviewed research for both guidance and justification in activities. The Commonwealth government should establish specific funding initiatives to support long-term studies (i.e. 7-10 years) of Indigenous land and fire management practices in multiple states and territories in southeast Australia (FVTOC 2019). These funding initiatives should be designed to ensure that projects are of economic and social benefit to Indigenous peoples and assess applications in terms of both their scientific merit and their equitable partnership with Indigenous peoples **[ToR (a); ToR (f)(i)]**.

Legal and regulatory impediments:

Recommendation 4: assess and review legal and administrative barriers restricting access to land and implementation of cultural fire and land management practices
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Aboriginal peoples seeking to apply Cultural Burning face many environmental, regulatory and cultural obstacles. Land management agencies also face these barriers in applying fuel reduction burning to public and private lands (Morgan et al. 2020). There are good reasons for oversight and regulation of landscape burning (e.g. risks to public safety, environmental values, critical infrastructure). However, current bushfire management laws and regulations are a significant impediment to the practice of Cultural Burning, which is a typically milder and lower intensity form of landscape burning than fuel reduction burning, in large part because they have not been designed in consultation with Traditional Owners and Aboriginal community representatives and do not have provisions specifically relating to Aboriginal

peoples' rights, interests and culture.¹ Current bushfire codes of practice, for example, require an inappropriately high level of bushfire management training and qualification to simply attend a cultural burn, forming a major barrier to the participation of individuals (e.g. elders and children) unable to complete this training. This is one amongst many regulatory obstacles faced by those seeking to practice cultural burning.

In southeast Australia, in particular, Aboriginal peoples have limited access to land on which they can practice their fire knowledge. Even on lands where governments recognise their native title interests or rights to exercise traditional rights and customs, whether through native title or other legislative instruments, Aboriginal peoples do not have free access to land or the permission to care for it with fire as they see fit. Where cultural burning initiatives are occurring in southeast Australia, for example, these tend to rely on access to private conservation lands provided at the discretion of the private landholder. Where Aboriginal peoples have been able to treat public lands with Cultural Burning in recent years, in these contexts, it has typically been where there are native title settlements (or similar) and robust relationships between Aboriginal land trustees and government (Smith et al. 2018b; Neale et al. 2019).

Therefore, we need to facilitate access by Indigenous groups to country by simplifying planning and regulatory requirements for cultural burning based on trust in local knowledge of vegetation community requirements and of fire behaviour. New forms of regulation can be developed by forming genuine partnerships with local land management agencies and developing community-based approaches to fire management that include all members of local communities. For example, Alexandra and Bowman (2020) suggested developing Indigenous-led local community fire management groups similar to local Landcare groups².

Lack of understanding or education about Indigenous Land Management and fire

Recommendation 5: undertake a national education campaign to change the public narrative and understandings of fire and Indigenous Land Management, including through schools via the School Curricula Project

Education is critical for effective structural and societal change. One of the barriers to the implementation of Indigenous Land Management is the deep cultural schism between the Indigenous world view and the settler world view. Fire emblemises this schism, with Indigenous culture and language revealing a deeply embedded, complex and multi-faceted relationship between people and fire across all indigenous peoples. In contrast, the settler experience with fire is rooted in a combative mindset that employs paramilitary concepts and structures to guide its relationship with fire. A change in epistemology of

¹ Most bushfire management laws (e.g. *Rural Fires Act 1997* (NSW)) and codes of practice (e.g. 10/50 Vegetation Clearing Code of Practice (NSW), Code of Practice for Bushfire Management on Public Land (Vic), and Code of Practice for Fire Management on Public Land in South Australia (SA)) do not refer to Traditional Owners, native title or other related terms. Where Aboriginal peoples are included they are presented in the past tense (i.e. as landscape managers prior to colonisation) or in relation to cultural heritage protections.

² Alexandra and Bowman 2020. <https://theconversation.com/theres-no-evidence-greenies-block-bushfire-hazard-reduction-but-heres-a-controlled-burn-idea-worth-trying-129350>

³ <https://indigenousknowledge.research.unimelb.edu.au>

mainstream Australia is needed is we are to truly engage with our landscape, one of the most flammable on Earth, and if we are to trust Indigenous people with custodianship of our land management.

This epistemological change requires a national curriculum aimed at all levels of education that deals with Indigenous world views, beliefs, customs and land management practices. Thus, future generations of Australians will have a greater appreciation of the efficacy and place of Indigenous Land Management in the Australian landscape.

We propose a model, such as championed by the University of Melbourne's Aboriginal and Torres Strait Islander Curricula Project.³ This initiative, funded by the Commonwealth government, aims to empower teachers across Australia to integrate Aboriginal and Torres Strait Islander histories and cultures in their teaching through curriculum resources that incorporate Indigenous knowledge. When developing the Aboriginal and Torres Strait Islander Curricular Project, fire was considered an integral component towards curriculum development, as it plays a central role in Aboriginal and Torres Strait Islander culture. Fire is used by Aboriginal and Torres Strait Islander people to manage the landscape, promote biodiversity maintain healthy Country. As fires become more unpredictable and prevalent across the nation, it is important we encourage teachings that centre Indigenous knowledges of fire from an historical and contemporary standpoint.

The next phase of the Curricula project is to verify an approach to teaching the curriculum through research with a selection of schools and teachers, beginning in Victoria. The research team will be gaining an understanding of how the subjects are being rolled out, how they can be improved, and how they can be integrated into schools that are currently not offering any Indigenous-knowledge-centred teachings.

There are currently 14 fire-related subjects ranging from years 5-10 across Social Sciences, English, Mathematics, Technologies, Physical Education, Science and the Arts, each focusing on Indigenous knowledges of fire. A year 6 mathematics-based learning encourages students to consider how factors like the wind and the slope of the terrain affect the way fires spread, making the connection between fire and geometry through discussion of the various shapes that fires make when they spread across the landscape. Year 9 and 10 students studying technologies are encouraged to investigate the interaction between traditional knowledge of fire management and new technologies using case studies that will show how fire management has evolved and suggest ways of improving or augmenting the technology.

The importance of Indigenous knowledge in relation to fire is paramount, and the subjects were developed innovatively to encourage students to think about how traditional fire practices can influence the current national landscape; by learning through an academic lens, students are encouraged to develop a greater interest in the area of national fire management that will hopefully use Indigenous knowledges to influence national environmental and social policy.

Lack of policy guidance:

While there are several national overarching statements regarding the commitment of land and emergency management agencies to working with Indigenous peoples (FFMG 2014; AFAC 2016), few agencies have enabling policies regarding how these statements are to be operationalised. Existing research on cultural burning in southeast Australia suggests that it has been up to individual Aboriginal and non-indigenous staff in the natural hazards sector to turn national policy guidance into changes in practice, working iteratively to find the resources and staff necessary to make cultural burns happen

³ <https://indigenousknowledge.research.unimelb.edu.au>

(Maclean et al. 2018; Neale et al. 2019; Ngurra et al. 2019). The lack of enabling policy, budgets and relevant performance measures is a significant obstacle to practitioners seeking to begin, maintain or expand such initiatives [ToR (a); ToR (f)(i)].

New funding models

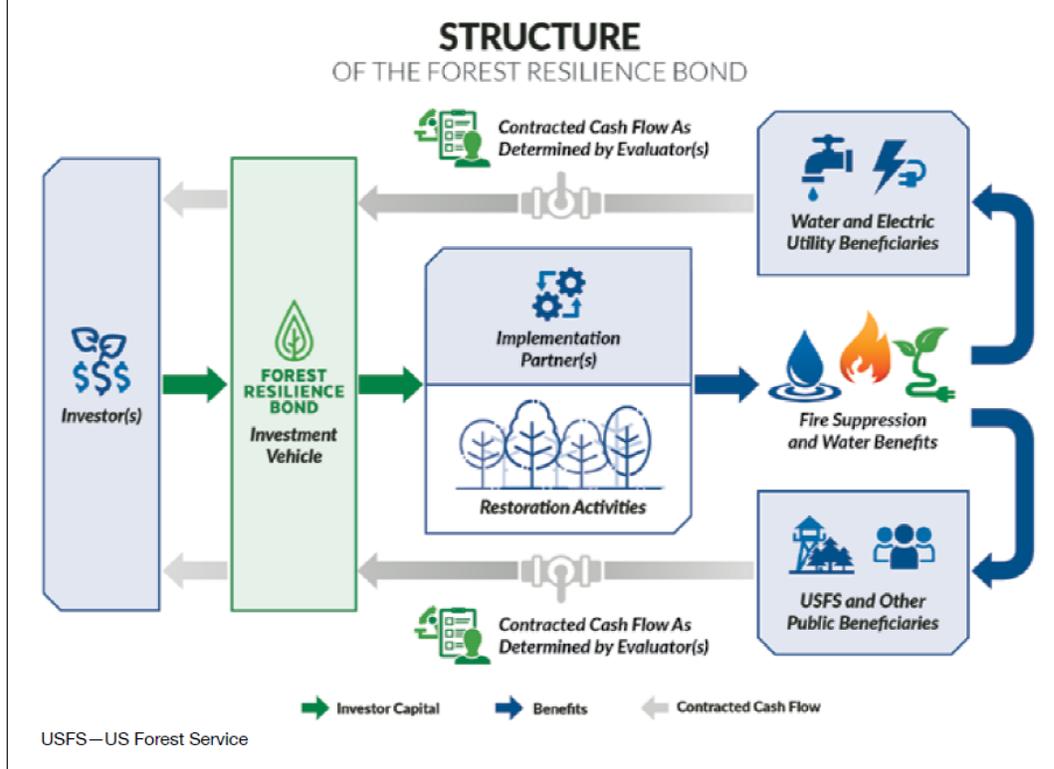
Recommendation 6: coordinate public investment in land management programs and facilitate private sector investment, for example through 'resilience bonds'

New types of funding, such as carbon payments, are providing income and social and cultural benefits for Indigenous people in northern Australia. A Forest Resilience Bond might provide a mechanism for public and private sector investment in Indigenous Land Management to reduce fire impacts, improve environmental and conservation and provide similar social and cultural benefits in southern Australia.

Funding and income to support ILM can come from a range of sources: government programs, commercial investment, Indigenous tourism, fishing, or other commercial enterprises, and Indigenous participation in product supply chains for natural products such as timber (Feary et al. 2010) or non-timber forest products such as bush foods (Woodward et al. 2019). One major source of income for Indigenous communities in northern Australia that has emerged in recent years is savannah burning (Russell-Smith et al. 2017). This approach has melded modern science and traditional practice to make a measurable and significant contribution to global emissions reductions and other global sustainability goals, while contributing to stronger, more sustainable livelihoods. Realizing these benefits required investments in tools and methodologies to support the engagement of communities in carbon markets, and investment by government and the private sector in emissions reduction.

A potential mechanism to fund ILM in southern Australia is a Forest Resilience Bond (Madeira & Gartner 2018). Developed by Blue Forest Conservation in collaboration with the World Resources Institute, Encourage Capital, and the American Forest Foundation, the FRB is a public– private partnership that provides a vehicle to link public finance and private capital to finance forest restoration and reduce fire risks. Beneficiaries of the restoration activities, such as the USFS, water and electric utilities, and state governments, make payments over time (up to 10 years) to provide investors competitive returns based on achieving successful outcomes in forests. The Bond can scale forest restoration by harnessing private capital to complement existing funding and facilitate investment in the management of public and private lands (Figure 3). This type of mechanism could support ILM in key areas in southern Australia to reduce fire impacts and achieve water quality, conservation and social goals such as employment.

FIGURE 3 Structure of the Forest Resilience Bond



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