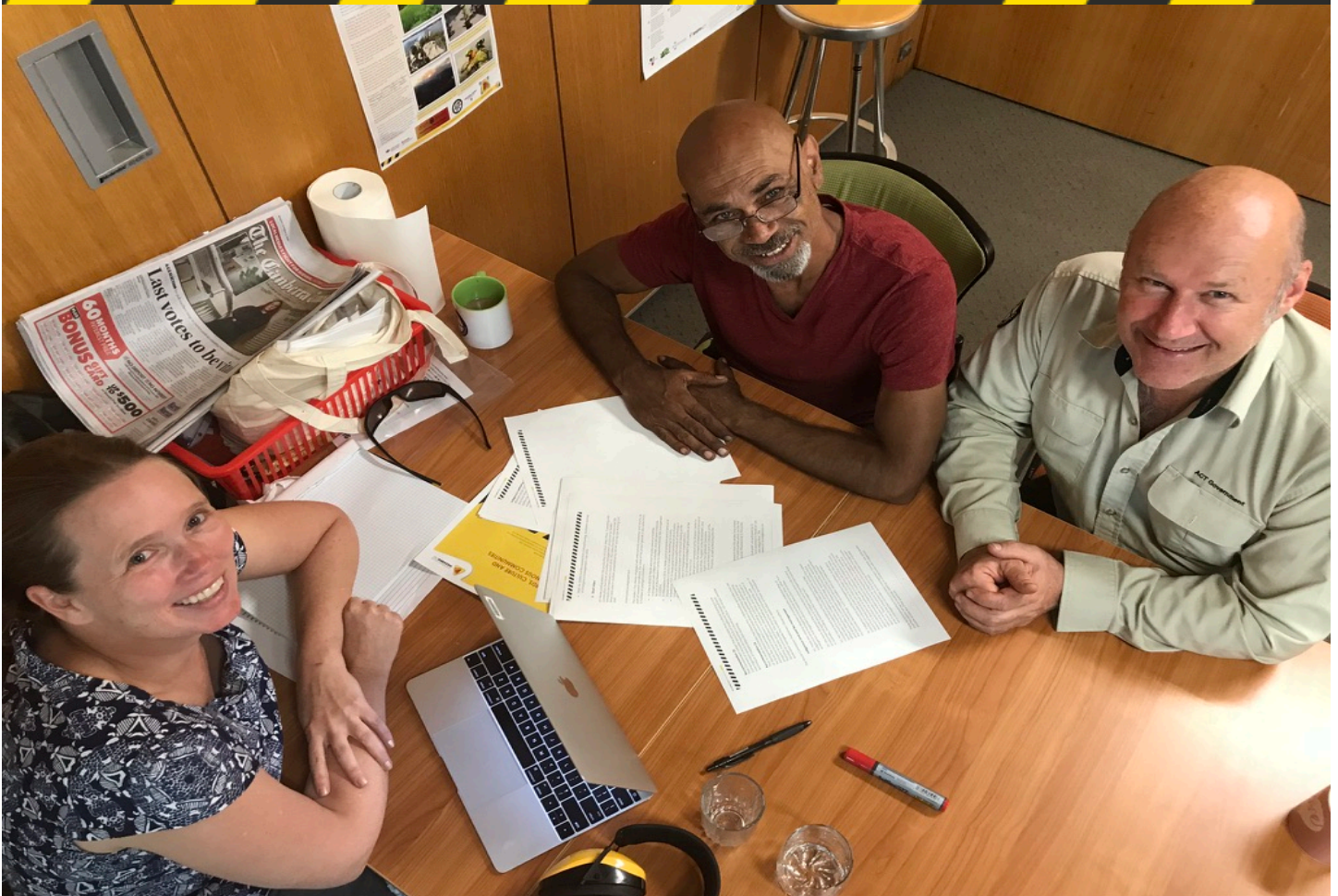bushfire&natural
HAZARDSCRC

HAZARDS, CULTURE AND INDIGENOUS COMMUNITIES

Final project report

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EXECUTIVE SUMMARY

This is the Final Report of the Hazards, Culture and Indigenous Communities (HCIC) project. This project considered the challenges and opportunities arising out of engagements between Indigenous peoples and natural hazard and land management government agencies **in southern Australia**. The majority of this activity has focused on cultural burning, which has also been our focus.

Significantly, there is very limited existing research about these engagements, and limited public sector experience in engaging with Indigenous peoples. This constrains evidenced-based policy and practice and practitioner decision making. This lack of capacity was clear in the responses to the 2019-20 bushfires. The natural hazard sector is now required to do this retrospective and forward-looking learning, to foster more culturally safe natural hazard mitigation, and better connect the logics of hazards, risk and resilience. Indeed, our research found that when the sector does not account for cultural protocols and permissions as part of its core business, this produces barriers to collaboration because it:

- consolidates suspicion amongst Aboriginal people about public sector intentions;

- compromises the role of Aboriginal staff recruited to act as conduits between the public sector and Indigenous peoples;

- often results in Aboriginal people being perceived as delaying an activity, thereby entrenching racist attitudes that working with Indigenous people is difficult;

- continues to undermine Indigenous peoples' self-determination, rights and relationships with Country and each other; and,

- works against government policy to support partnership approaches with Indigenous peoples.

We undertook qualitative research, primarily through forming partnerships with key practitioners working in this space and undertaking research activities that iteratively learnt from these partnerships. In this, researching both Indigenous and non-indigenous values has been important in order to navigate and analyse this intercultural context.

Our research findings are structured in two sections: the first presents the results from our literature review, the second presents a synthesis of the research findings arranged under six headings, as listed below, with recommended first steps for the natural hazard sector under each heading. Given previous sector and research practices, the suggested first steps require significant sector leadership and investment in Indigenous-led research.

RESEARCH FINDINGS

Unfamiliarity with the context itself

There needs to be a rapid growth in sector capacity in understanding the context itself, especially:

a) Indigenous peoples' as First Peoples, their territories, societies and governance processes. This includes the fundamentals of Indigenous knowledge and governance, and their identities, organisational forms and policies.

b) Australian government agency responsibilities towards Indigenous peoples' distinct rights and interests under various laws and policies.

c) Discriminatory histories and geographies of marginalisation and erasure, including with respect to 'settled' and 'remote' Australia.

d) How natural hazard collaborations are part of legal, political, cultural and social domains, and not simply technical matters.

Essentially, the sector needs to understand where it sits in relation to Indigenous peoples.

Trust and partnerships

The shared motivations held by some Indigenous and non-indigenous individuals to form collaborative partnerships are challenged by their operating context, including a lack of trust, bureaucratic constraints, tokenism, racism, and a lack of resources. The sector needs to move beyond statements of support, to develop specific policies and programs that demonstrably grow opportunities for Indigenous engagement and partnership. We suggest these policies should be:

a) developed in coordination with Aboriginal peoples, groups and networks engaged in these issues, providing a context for partnership arrangements and management objectives to be appropriate to diverse Aboriginal peoples and their regional and landscape contexts;

b) based in principles of Indigenous self-determination and non-discrimination, addressing both general and specific issues, and be developed on meaningful terms in collaboration with Aboriginal peoples and their organisations; and,

c) supported by allocating ongoing budgetary lines, as well as appropriate funding models, for Aboriginal people working both within and with the sector. This includes funding to participate in collaborations and implement them, as well as funding for Aboriginal governance to underscore such participation.

Centring Country and First Peoples

It is clear from our research that if emerging collaborations are to be sustainable, Aboriginal people need to be centred on meaningful terms across a suite of natural hazard practices and policies. We suggest this should involve:

a) supporting Aboriginal peoples' governance organisations to lead, partner and participate in natural hazard risk and resilience, and land and water management more generally;

b) ensuring that Aboriginal staff are present across all levels of agency decision-making;

c) building capacity in sector understandings about Country as a required expertise for all public servants across all employment levels. An often-raised example is the sector's own emergency management training;

d) building capacity in principles of non-discrimination as a required expertise for all public servants across all employment levels; and,

e) supporting knowledge exchange and networking for Aboriginal and non-indigenous practitioners to learn about working together and to mentor each other.

Administration and regulation

There is a clear need for more culturally appropriate and equitable regulatory, training and qualification regimes for bushfire management across Australia. From our research findings this includes:

a) Changes to bushfire codes of practice to enable more Aboriginal community members to participate and lead cultural burns, including provision for Elders and children;

b) The re-considering of agency job design, levels, reporting and paperwork arrangements, to support and recompense the cultural authority brought into the public sector by Aboriginal people;

c) Embed policy support for the sector to take partnership approaches to Aboriginal communities;

d) Ensure current training for all personnel is culturally appropriate to Aboriginal participants, centres Aboriginal educators, and builds awareness of Aboriginal peoples' rights and inherited fire responsibilities to look after Country; and,

e) Examining the fit of current funding schemes to the context of southern Australia.

Expert evidence and erasure

Academic and government research has failed, almost without exception, to consider Aboriginal peoples' experiences with natural hazards in southern Australia. To address this imbalance, the public sector needs to create specific funding streams to address this research gap. These funding schemes should be:

a) Indigenous led, as directed by Australian government research protocols (AIATSIS 2012, NHMRC 2018);

b) Have long timeframes (i.e. 7-10 years) which are vital to ensure that the research meets ethical standards;

c) Have research projects that engage Aboriginal people as researchers and research advisors.

d) Treat Indigenous peoples equitably, including robust protections for their intellectual property and self-determination.

Accounting and reporting

Our research showed that there was very little attention given by the sector to accounting and reporting their policy commitments and legal obligations towards Aboriginal peoples, reducing sector transparency, accountability and coordination. In response, we suggest that a;; land and emergency management agencies should include in their annual reports details about:

- the number of Indigenous-identifying staff;

- current Indigenous employment targets, Reconciliation Action Plans and other relevant policies;

- the amount and percentage of their annual budgets that they spend on contracting services from Indigenous organisations.

- the number of cultural burns they have resourced or supported;

- the number of Indigenous peoples they have supported through relevant land and fire management training and qualifications; and,

- any progress they have made towards partnership approaches with First Peoples for natural hazards resilience, including whether they have internal Indigenous advisory or governance units.

We emphasise that conducting a cultural burn in of itself is not necessarily a good outcome, as the value of the cultural burn is dependent on the meaningful involvement of First Peoples.

Fundamentally, we argue that the sector and Aboriginal peoples have to build capacity, meet, and be more organised locally and across larger regions. To do so, we suggest:

- The founding of a national 'Indigenous Partnerships and Policy' group;

- The founding of a national Indigenous bushfire practitioners' network; and,

- Federal, State and Territory agencies to support and/or convene events that bring together Indigenous and non-indigenous practitioners together across regions.

In summary, we suggest that land and emergency management agencies need to:

a) Establish consistent performance indicators relating to their collaborations with Aboriginal peoples in bushfire management;

b) Invest time and resources into networks and agency capacity to support them; and,

c) Support Aboriginal peoples' capacity to take leadership roles to grow public sector capacity in more meaningful and purposeful reporting and accounting.

CONCLUDING REMARKS

With the recent catastrophic bushfires, there is an expressed demand for greater engagement with Indigenous peoples iconic burning practices. More generally, it may be that the public sector has reached a tipping point, whereby adversarial approaches to working with Indigenous peoples are being authentically replaced with partnership approaches. In this, the findings are not just of relevance to the natural hazard sector, but across other public sector practice.

Fundamentally, sector leadership has to consider: why and how it wishes to collaborate with Indigenous peoples; allocate the resources and time to understand the status quo that has excluded Indigenous people to date; create processes and structures to support Indigenous leadership, participation and collaboration across the sector; and, address deficiencies in how sector performance is currently measured and reported.

LEAD END-USER PROJECT IMPACT STATEMENT

Dr Adam Leavesly, *ACT Parks and Conservation, ACT*

The Hazards, Culture and Indigenous Communities team has produced an outstanding set of outputs brilliantly crafted to bridge the gap between cultures and assist land and fire management agencies to develop new, productive engagements with Aboriginal First Peoples of southern Australia. At the same time the team has leveraged its expertise in Indigenous liaison to assist agency personnel to better appreciate the circumstances of First Nations people. The team has adroitly laid out the context for future engagements so that agency staff tasked with advancing programs can inform themselves about the cross-cultural issues. The development of natural hazard programs in southern Australia which are inclusive of Aboriginal people remains work in progress, but with greater appreciation of what the future partnerships might look like and consequently greater appreciation of what needs to be done.

The expertise of the HCIC research team is strong on social science and brought a refreshing approach to the CRC partnership. The team pro-actively sought partnership opportunities amongst the end-user group, solicited engagements with a wide range of Aboriginal end-users within the geographic area and willingly moulded the research focus to take advantage of activities and opportunities as cultural burning practice grew and evolved during the project. The production of research reports in language and format familiar to end-users who do not have a background in research is a most welcome contribution. Time spent on this kind of work is time not spent on academic outputs and as such represents a generous and committed contribution to the partnership. For this the project team deserve a big thank you.

The HCIC project is a timely, almost prescient addition to the BNHCRCs natural hazard research portfolio. In hindsight, the focus of Indigenous hazard research in northern Australia left most Indigenous Australians and most of the continent without a dedicated CRC research resource. This was to the detriment of the Traditional Custodians and the landscapes of southern Australia, and a long-missed opportunity for land and emergency management agencies. I am very pleased to have been involved with correcting the situation and commend the work to my colleagues in land and emergency management.

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PRODUCT USER TESTIMONIALS

Rodney Carter, *Group Chief Executive Officer Wurrung Clans Aboriginal Corporation, Dja Dja Wurrung Enterprises, and Djandak*

For thousands of generations, Traditional Owners have undertaken landscape actions and fire management is one. Here it is Djandak Wi and when we practice today it places good spirit back into Djandak as Country and Djarra as its people. My ancestors were the masters of their domain and used fire as a tool and adapted its application as needed by being directly a part of the system. They were tasked with managing Country. This was practical and spiritual, their actions if we were viewing them at that time as scientists, we would have collected data and we would have formed opinions. We can also do this today, and by watching Traditional Owners applying fire re-learn and share in the journey. This is what science can do and science offerings through its many disciplines can speak of our Wi Murrup Boort. This final report can be enabling for us to break down barriers that have inhibited Traditional Owners for far too long to be the leaders and masters of their domains that they inherited from their Ancestors. Let us not be the dispossessors of their culture and practices at this point in history. We can choose to support self-determination and to share in the celebration of healing Country and healing people. Dhelkup Murrupuk - we give good spirit.

Timothy McNaught, *Director Office of Bushfire Risk Management, Department of Fire and Emergency Services, WA*

This research is an important insight into how traditional and non-traditional management strategies could be integrated within the natural hazards management sector. Exploring ways that can more effectively unify the sector, empower and stimulate a broader range of the community in strategies and activities that complement one another and endeavour to protect the values of the community are critical in an increasingly complex and demanding sector. This research is a great first step in identifying opportunities for improving how collaboration is initiated and developed by the public sector and aboriginal people and their businesses and mechanisms to support a sector wide approach to using the momentum gained through the various inquiries findings and growing public interest.

INTRODUCTION

This is the Final Report of the Hazards, Culture and Indigenous Communities (HCIC) project. The project began on 1 July 2017 and formally ended on 30 June 2020, although research and utilisation products continue to be generated. The project is jointly led by Western Sydney University and Deakin University.

TERMINOLOGY

In this report, we mostly use the terms 'Aboriginal people' and 'Aboriginal peoples' to describe the Indigenous people with whom we have collaborated with within southern Australia. 'Aboriginal peoples' explicitly references their political forms and societies, whereas 'Aboriginal people' references individuals. Note that in many instances in the text both interpretations will apply, but we will often just use 'Aboriginal peoples' to be succinct.

Similarly, we use the terms 'Indigenous people' and 'Indigenous peoples' to refer to Aboriginal and Torres Strait Islander people/s more broadly.

As with 'Aboriginal peoples' and 'Indigenous peoples', the terms 'First Nations' and 'First Peoples' identify specific political-legal groups of people, as distinct to an Aboriginal or Indigenous identity. First Nations and First Peoples have territorial and self-determination rights, whether formally recognised by Australia governments or not. These terms connects with the language used in North America.

'Traditional custodians' are a group of Aboriginal people who have responsibilities for a certain area of land, their Country. The term is often explicitly used as an alternative to 'traditional owners', which is critiqued for representing relationships with Country as ones of ownership. The term 'traditional owner' was popularised by the *Aboriginal Land Rights Act 1976 (Northern Territory)*, and is now commonly used throughout Australia, sometimes as the shorthand 'TO'.

Many Indigenous people prefer to use other terms to describe themselves that relate to language, community, region or Country. 'Country' is a word Aboriginal people use to generally describe their homelands, although it has a much broader meaning than just territory. We capitalise 'Country' as this has become standard practice in Indigenous scholarship and is increasingly standard practice elsewhere.

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BACKGROUND

In Australia, real and potential engagements between Indigenous peoples and natural hazard and land management government agencies take place within a complex socio-cultural context. Considerations about whose values matter, and whose political-legal rights and entities are recognised and resourced, underscore the opportunities and challenges of these engagements.

In southern Australia, where our research is situated, such engagements are increasingly being initiated and formalised in response to Indigenous peoples' cultural and political resurgence, as well as changing public policy and societal values. These values recognise the unique and ongoing status of Aboriginal peoples as First Nations (also known as Traditional Custodians or Traditional Owners), their relationships with Country, and their historical and contemporary exclusion from natural hazard and land management agencies. Governments at all levels are now working to ensure their social, economic and environmental policies and programs are more responsive to Indigenous peoples' priorities.

As part of this, over the past decade, there has been an increasing amount of public attention focused on the contributions of Aboriginal peoples – including their land holdings, knowledge, practices and governance forms – to the broader resilience and sustainability of society. One key area of interest has been Aboriginal peoples' use and management of bushfire, with different established and emerging interpretations about how this use relates to contemporary land and fire management in Australia. In engagements around this issue, governments and Aboriginal peoples are articulating and learning about how to work together differently. We highlight, however, that supporting and protecting Indigenous peoples' rights and interests are legal obligations of the public sector, and greater public sector capacity needs to be built to meet these obligations.

Research about these matters in southern Australia is long overdue. There is a considerable body of research on natural resource and environmental management collaborations between Indigenous and non-indigenous peoples, however few consider natural hazard risk management specifically. Further, there is an academic bias towards researching the northern Australia context, where Aboriginal people are the majority land holders (e.g. Yibarbuk et al. 2001, Bird et al. 2008, Russell-Smith, Whitehead, and Cooke 2009, Green and Minchin 2012, Greiner and Stanley 2013, Barber and Jackson 2017). Less research is conducted in southern Australia, despite this being where the majority of Aboriginal-identifying people live, and where natural hazard risk and research is generally considered concentrated. This north/south bias is also reflected in government funding programs designed around Indigenous peoples' land holdings, instead of developing funding programs that work across tenures to support Indigenous peoples' governance. These research limitations need to be a government priority. We believe there are clear challenges to applying the northern literature to the different governance, environmental, legal and demographic contexts of southern Australia.

In the last decade in southern Australia, there has been a convergence of Aboriginal-led grass-roots initiatives, new recognition of Aboriginal peoples' rights within land management governance, and a growing receptiveness to collaboration and partnership within many government agencies. This has

provided a fertile context for dozens of collaborative projects between Aboriginal groups and a diverse array of government agencies that, to varying degrees, either support or implement fire management by Aboriginal peoples. With few exceptions, most States and the one Territory in southern Australia now have at least one active cultural burning project and some have several. While this may appear minor to those unfamiliar with these issues it actually represents rapid growth over the last decade.

The limited but growing application of Aboriginal peoples' fire practices in southern Australia represents a tangible manifestation of resurgent political and cultural practices and has been widely covered by news and institutional media as successful examples of intercultural collaboration (e.g. Waters 2017, DELWP 2017). This positive reporting, however, establishes a linear trajectory of success and obscures the considerable contingencies evident from closer research of these collaborations and the experiences of practitioners. This project represents one step towards greater insight into these matters.

RESEARCH APPROACH

This research project has sought to support three **activities**:

- the emerging commitment of natural hazard agencies in southern Australia to engagement and collaboration with Aboriginal peoples;

- the increasing level of legal recognition accorded to Aboriginal peoples' property rights; and,

- Aboriginal peoples' investment in engaging in natural hazard management with the sector.

We have prioritised understanding and documenting beneficial and respectful collaborations, and how these can be further fostered within the context of reducing natural hazard risk and increasing resilience in southern Australia. We did so with three **objectives**:

- To investigate the hazard priorities of diverse Aboriginal peoples in southern Australia, and the sector's engagement with these peoples;

- To conduct collaborative research with Aboriginal peoples and sector practitioners to explore how better engagement can be supported, with a focus on the interaction of scientific, Aboriginal and other knowledge sources; and,

- To analyse and report on what this dynamic intercultural context can offer practice and policy, including with respect to the merging of risk and resilience agendas.

This is intercultural work. In these engagements, researching both Indigenous and non-indigenous values is important in order to understand and navigate how they relate and inform each other, what is considered normal and appropriate, and thus what is possible.

The three objectives were pursued through drawing on qualitative research methodology and methods, which build on disciplinary, interdisciplinary and transdisciplinary academic expertise in values, meaning, interpretation and argument. Our methods included a literature review, two case study sites, and a practitioner survey across southern Australia. The literature review gauged existing research, gaps, and priority issues. Notably, given the dearth of relevant research, we took an international approach to the literature review. The practitioner survey was designed to generate new insights into sector perceptions and assumptions regarding emerging challenges and opportunities in collaborations between Aboriginal peoples and government agencies. The case studies were designed to uncover how engagement and collaboration are experienced and regulated, so as to elicit insights into current practice.

Throughout the project we have sought to establish iterative relationships between end-user priorities and interim research findings, so as to keep refining the research activities. This includes the development of specific tools and products to assist end-users, including the Socio-Institutional Modules and two industry reports. Note that our use of the term 'end-user' includes both the natural hazard sector and Aboriginal people, as negotiated in the original research contract with the BNHCRC. The follows the now much more widely accepted

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logic that Indigenous peoples have to be involved in public sector policies, programs and practices that concern Indigenous peoples. Similar arguments are made about women and other groups in society, although Indigenous peoples have distinct rights as First Nations and are not just another stakeholder group.

RESEARCH ETHICS

While this project sought to meet the research ethics that it advocates in its recommendations, it only did so partially, and thus was limited in many respects, and its findings must be understood in relation to this qualification. Fundamentally, the project was led by two non-indigenous researchers and a majority of its research team and end-users were non-indigenous people. Further, with funding from the natural hazard sector, the research has been motivated to offer value to the industry. To partially counter some of these problematics we negotiated in our research plan the inclusion of Aboriginal peoples *outside of the sector* as end-users, alongside the natural hazard sector, so as to provide clear structural terms to include Aboriginal peoples' priorities in research methods and outcomes. Also, during the scoping of the project proposal, prior to it being submitted and approved by the BNHCRC, project team members met with potential Aboriginal partners such as Dja Dja Wurrung CAC, the Federation of Victorian Traditional Owner Corporations, the Murumbung Rangers (Australian Capital Territory Parks and Conservation), and the Firesticks Alliance to discuss possible research relationships and project design. Critically, in undertaking the research, collaboration with Aboriginal partners was prioritised in the case studies and other project activities – including with Indigenous academics, practitioners, and leaders. Nonetheless, collaboration was not always successful.

Whilst our research approach was constrained and could have been better, we were encouraged by key Aboriginal partners to present and publish our findings as non-indigenous academics and valued for doing so. This imprimatur reflects the trust built over time with Aboriginal partners, including the navigation of how positionality and voice relate, and understanding that trust is something that always needs to be worked at.[1] Significantly, ethical research is for us, as non-indigenous academics, part of always learning within a decolonial ethic (Weir et al. 2019, McLean et al. 2019). It is not a simple matter of following the ethical research principles developed by Indigenous scholars and organisations (AIATSIS 2012), but interpreting them in relation to the priorities of differently positioned Indigenous organisations and individuals (Sullivan 2020).

These experiences through all stages of the project have informed our research findings which argue for greater Indigenous leadership in the many different leadership roles in research. Research, such as this project, should occur on much more equitable resourcing terms with Indigenous peoples and their organisations, and over much longer time frames, if Indigenous peoples' leadership is to be better respected and foregrounded. This includes support for Indigenous governance processes, including their research priorities, institutions and practices. Such governance processes generally do not receive public sector funding, and so need to be built into research budgets until this is addressed. At the same time, longer timelines are needed to explore whether

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[1] For example: https://www.youtube.com/watch?v=rqYiCrZKm0M

relationships of trust can be established in the first place given histories and geographies of discrimination. Long time frames also allow for the potential of more respectful negotiation of issues as they arise within a research partnership, if that partnership is established. This includes sector learning about the cultural norms they are bringing to these collaborations. It is also a priority to recruit Indigenous scholars and leaders into decision-making positions in industry research funding programs. We have made such recommendations in this report and elsewhere (e.g. Neale et al. 2020; Weir et al. 2020). We will incorporate these learnings into our current and future research collaborations, including continuing to publish papers documenting and analysing our learnings.

In addition to these ethical considerations with Aboriginal peoples, our universities also have their own ethics procedures. These require evidence of ethical research practices, as judged by the university ethics committee which may or may not have Indigenous scholars as members. This joint-project was approved by the Human Research Ethics Committee at Deakin University (reference number H2017-194), with support from Western Sydney University. Progress reports were then required by both Deakin University and Western Sydney University.

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FINDINGS

In this project, Aboriginal research participants and collaborators generously shared how Australia's fraught and complex histories and geographies influence fire management, their own lives, and Country. We have also learnt from non-indigenous research collaborators who are grappling with meeting what they think are the priorities and concerns of Aboriginal people, usually through learning directly from Aboriginal people. We have brought these different and overlapping perspectives together so as to support better collaborations for the sector in southern Australia.

Our findings are structured into two sections. First, the results of our literature review into existing scholarship and sector priorities. Second, and our most substantive section, we synthesize six findings from across the project. These are specifically directed towards the natural hazard sector, and are summarised as:

- Unfamiliarity with the context itself

- Trust and partnerships

- Centring Country and First Peoples

- Administration and regulation

- Expert evidence and erasure

- Accounting and reporting

First steps to assist agency practice are suggested under each heading, to foster more culturally safe natural hazard mitigation, and better connect the logics of hazards, risk and resilience. Given the low levels of sector engagement, and the absence of research on these issues until recently, these suggested first steps require significant sector leadership and investment in Indigenous-led research. Indeed, from our research we found that when the sector does not account for cultural protocols and permissions as part of its core business, the imbalance produces barriers to collaboration because it:

- consolidates suspicion amongst Aboriginal people about public sector intentions;

- compromises the role of Aboriginal staff recruited to act as conduits between the public sector and Indigenous peoples;

- often results in Aboriginal people being perceived as delaying an activity, thereby entrenching racist attitudes that working with Indigenous people is difficult; and,

- continues to undermine Indigenous peoples' self-determination, rights and relationships with Country and each other.

EXISTING SCHOLARSHIP ON AGENCY PRIORITIES

This project began its research activities with a review of academic literature relating to natural hazard management agencies across the settler countries Canada, Australia, Aotearoa / New Zealand and the United States (or CANZUS countries) and their engagements in collaborative and consultative

engagements with Indigenous peoples (see Thommasin, Neale, and Weir 2018). This review involved examining over 320 academic and grey sources to identify and elaborate on the key rationales informing natural hazard management agencies' interactions with Indigenous peoples. The international approach was necessary because of the lack of literature in Australia, and offered the opportunity to learn from other contexts. We limited our international review to the CANZUS countries because of their shared experiences with the British Empire and institutions. Also, some of our research collaborators had visited these countries as part of emergency management exchanges, including to provide support during large natural hazard events and also for learning and networking.

In regard to the question of how engagements between natural hazards sectors and Indigenous peoples start, the review found **four main origins**:

1. Indigenous peoples' rights to land and water become legally recognised and therefore agencies are legally obliged to engage;

2. Government policies and regulations change in ways that require or incentivise agencies to engage;

3. Local initiatives begin between individuals, families or groups; and,

4. Hazard events occur that prompt agencies to engage due to revealed vulnerabilities or hazard reduction potential.

In regard to the question of how engagement with Indigenous peoples is framed within natural hazard management, the review found **five main frameworks**. agencies typically involve Indigenous peoples:

1. Because they are local peoples, meaning people who live within an environment or landscape being managed;

2. Because of specific socio-economic disparities, meaning Indigenous peoples have different exposure to hazards and different capabilities and opportunities to engage in their management;

3. Because of cultural differences, meaning agencies seek to respond to gaps between their culture and that of Indigenous peoples;

4. To facilitate the protection of Indigenous peoples' cultural heritage, specifically Indigenous cultural heritage that may be exposed to various hazards; and/or,

5. Because Indigenous peoples are holders of specific Indigenous knowledge about hazards and Country.

Across the review we found that:

- the broad principles of sustainability and inclusion have transformed these interactions; and,

- that developmentalist approaches – meaning approaches that presume a clear linear pathway between the founding of collaborations and their sustainability or growth – and an overemphasis on Indigenous peoples' traditional knowledge can sometimes undermine this work (see Smith et al. 2021).

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SYNTHESIS OF FINDINGS

Unfamiliarity with the context itself

Throughout the project it was apparent that the sector lack familiarity with the context itself. The literature review and other research activities confirmed that Indigenous peoples' interests and priorities are not considered present, are marginalised, and, or, not understood because of problematic and discriminatory assumptions, structures and processes. There is much formal and informal knowledge that is not known outside of the people who are collaborating on these issues – across both research and the public sector. This means that public sector evidenced-based policy and practice is not being supported, and practitioner decision-making is constrained with navigating even the basics.

Thus, and in support of Indigenous people who have been calling attention to these matters for generations, we begin with three observations about the current practice and policy context in southern Australia:

- First, as First Peoples, all Indigenous peoples bring their own territories, societies and governance processes to natural hazard management. Critically, their self-determination and territorial rights are integral to their knowledge, identity and ongoing existence as a people (Moreton-Robinson 2015, VTOCFKG 2019). That is, Indigenous knowledge is not separate to Indigenous governance. In this, First Peoples have their own evidenced-based practices and policies, which are now also known and expressed in relation to the Federation of Australia. Navigating co-located governance authorities is the work of these co-located jurisdictions. This includes Constitutional reform, treaties and truth-telling. Some matters are not resolvable and will always be in tension; nonetheless, less discriminatory approaches can be negotiated. Public sector land management itself is required to undergo a fundamental revision in response (Weir and Duff 2017).

- Second, Australian government agencies are required to recognise Indigenous peoples' distinct rights and interests under a range of national (e.g. *Native Title Act 1993 (Cth)*) and State and Territory (e.g. *Aboriginal Heritage Act 2006 (Vic)*) policies and laws, as well as international policies (e.g. *UN Declaration on the Rights of Indigenous Peoples*). Engaging Indigenous communities in land and fire management and devolving power to them should be understood, in these terms. That is, not as part of resilience policies but rather a responsibility or obligation on government agencies, as well as non-government agencies and others.

- Third, the lack of scholarship in southern Australia reflects and compounds histories and geographies of marginalisation and erasure, including assumptions about where Indigenous people can be Indigenous with respect to 'settled' and 'remote' Australia.

These are not simply technical issues that have discrete solutions, but encompass legal, political, cultural and social domains, which are also regional and national conversations. For example, because of the reach of these matters, public sector land management regulation is required to undergo a fundamental revision to understand its purpose, constituents, and their priorities, organisational forms and more (Weir and Duff 2017).

Becoming familiar with the context requires learning directly from Indigenous peoples, and how their governance and knowledge norms relate. Many Indigenous people have written about how their relationships with Country are fundamental to knowing and being in the world, including as the source of knowledge and the law. For example, Indigenous scholar Mary Graham has written that in Country the most important relationship is between people and the land, and the second being between people themselves, with the second being contingent on the first (Graham 1999). This knowledge inheritance connects people with each other within placed-based logics and through time. For example, Country means that instead of focusing on the boundaries between nature/culture, society/environment, and people/land, these categories are understood as embedded and overlapping (Rigney, Bignall, and Hemming 2015). These knowledge practices demonstrate a sustained commitment to understanding and respecting important relationships *within* nature. For example, in our research, Indigenous research participants emphasised responsibilities held between generations, places and species, and expressed cultural burning in these terms. This is sometimes called mutual relationality in the academic literature. It is not a cultural illustration of the world, but a different viewpoint to 'western' knowledge, arising out of different knowledge assumptions and practices.

Because Indigenous peoples have their own governance and knowledge norms, Indigenous leaders are presented with fundamental challenges when they engage with a public sector that is organised differently and with little expertise in understanding its own culture, Country, or even understanding place in Indigenous terms. The public sector needs to:

- build expertise in the fundamentals of Indigenous knowledge and governance if they wish to meet with Indigenous peoples on terms that are meaningful to them. This needs to be done prior to meeting with Indigenous people, so that Indigenous people do not have to keep carrying the responsibility for translation about well-known matters that are widely available through their books, articles, songs, films, websites, and so on; and,

- build expertise in the fundamentals of Indigenous peoples' identities, organisational forms and policies. For example, in relation to policies that centre on the land, such as Caring for Country[2] (Altman and Kerins 2012), Cultural and Environmental Management[3] (Weir, Ross, Crew and Crew 2013), Land Based Healing for Trauma (The Lowitja Institute 2020), and Indigenous Fire Forums (Steffensen 2020).

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[2] https://www.nlc.org.au/building-the-bush/caring-for-country
[3] http://www.yarkuwa.org.au/

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The sector needs to build capacity about where it sits in relation to Indigenous peoples. Clearly, Indigenous peoples' leadership has much to offer sector policies of resilience and shared responsibility; however, our research has shown that the government, and research institutions, should not ask Indigenous people, who live with two centuries of colonisation and discrimination, '*How can your knowledge improve our resilience?*' Instead, they should ask '*How can we support Indigenous peoples and their engagements with natural hazard management as part of their and our resilience?*' Significantly, the public sector was not established to support Indigenous peoples' governance and land management; indeed, it relied on assuming the erasure of these polities and territories.

All Australian governments have a history of denying and disrupting Indigenous peoples' authority, language and culture, including policies of segregation and assimilation that require de-colonising. Today's natural hazard management sector does not operate in isolation to these histories and geographies, but works with them – both perpetuating and addressing injustice as part of learning how to work on better terms together (Weir, Sutton, and Catt 2020).

Trust and partnerships

Collaborative partnerships are formed around shared interests and goals and sustained through good relationships. The results of this project show that Aboriginal peoples' involvement in the natural hazards management sector is viewed by Aboriginal and non-indigenous people as an immensely valuable opportunity to work together on better terms for Aboriginal people, with cultural burning the focus of this. Aboriginal participants expressed undertaking cultural burns as a powerful connection with Country, their ancestors, each other and their authority as First Peoples (e.g. Neale et al. 2019, Smith, Weir, and Neale 2018). However, there was less awareness amongst non-indigenous participants of the broad reach of Aboriginal peoples' rights and interests in fire and Country more generally. Moreover, given previous practices and policies, our research shows that considerable investment is required by the sector to build trust with Aboriginal peoples.

Whilst, for both Aboriginal and non-indigenous participants, shared motivations underscored diverse activities to find, form and sustain partnerships to support cultural burning, the research participants identified significant barriers to building trust and establishing effective partnerships:

- **Lack of support:** collaborations are often not the product of formal sector policy frameworks but are dependent on interpersonal dynamics between individuals who take on additional responsibilities beyond their prescribed roles. Thus, these collaborations are vulnerable to changes in resourcing, staffing and funding, and the weight of meeting existing sector priorities. Additionally, many Aboriginal research participants were concerned that when mistakes and failures occur, as no one is perfect, that these will be used against them to withdraw this insecure support and resources.

- **Bureaucracy:** the natural hazards management sector is highly regulated to reduce risk, placing often onerous bureaucratic requirements on

Aboriginal peoples wishing to engage collaboratively. These requirements include, for example, the credentialing needed to work with fire, the planning required to conduct burns, and the need to wear Personal Protective Equipment (PPE) to meet workplace health and safety regulations. Aboriginal peoples are often reliant on sector agencies, their resources, their access to Country and their processes in order to engage in cultural fire business and often must develop relationships with non-indigenous practitioners and programs even if they do not wish to.

- **Racism:** alongside navigating interpersonal and bureaucratic constraints, Aboriginal peoples face distinct challenges that originate in colonisation and institutional racism. For example, Aboriginal peoples' priorities are often seen as 'new' and 'difficult' interests by sectors that have historically ignored them, and thus are sometime perceived as interrupting established processes or core business. Another example is socio-economic disadvantage, which has been generated by structural racism but is often termed in disaster risk reduction as vulnerability (Williamson et al. 2020). These challenges, combined with ongoing experiences of everyday interpersonal racism, may thwart collaborations, discouraging Aboriginal people from being involved in the natural hazards management sector. Where agencies do not acknowledge and mitigate historic and contemporary discrimination, they further entrench the institutional and interpersonal racism experienced by their Aboriginal staff, partners and volunteers.

- **Tokenism:** all Aboriginal research participants and many non-indigenous participants were concerned that collaboration could be, or become, tokenistic if Aboriginal people are not in positions of authority and influence. Also, because agencies are disproportionately staffed with non-indigenous people (Neale, Smith, and Leavesley 2019), Aboriginal staff members often feel they are either ignored or, conversely, treated as experts in everything Indigenous-related. To quote one practitioner, becoming visible with an agency may mean being treated as "the representative blackfella for everything" (Neale et al. 2019, 9).

> *"…you get a lot of the long-term fire fighters or people who've been on the ground and doing this for quite a few years. Some of them just have the wrong understanding, y'know. Being Aboriginal people there is a feeling that we get handed a lot of stuff without doing the hard yards. But with this sort of stuff there's a role for everyone in fire in Australia – how big the land is, how much we've got here – so people can contribute regardless of how long they've been around, and we're not here to take other peoples' roles and livelihoods. We're here to make the Country healthy."* – ACT/NSW Aboriginal fire practitioner, interviewed by Will Smith.

- **Funding:** the lack of resources, funding, and appropriate funding models for Aboriginal peoples' interests and priorities was a recurrent theme across the project. For example, funds might be found for purchasing equipment, but not for transport to move that equipment, nor arrangements to undertake the work through fee-for-service, or carbon-farming schemes, or support to help establish and sustain Aboriginal organisations and staff positions more generally. The comprehensive lack of funding

reflects its historic and contemporary absence, and the scale of investment needed is required to be understood in this context.

At present, sector policies and guidelines contain various statements endorsing partnership with Indigenous peoples. Federal policies such as Closing the Gap (e.g. COAG 2011, Department of Home Affairs 2018) and policies and statements relating to bushfire management specifically (e.g. FFMG 2014, 12-13, AFAC 2016) ostensibly commit government agencies to working in partnership with Indigenous peoples. Fire agencies in different jurisdictions also have their own plans outlining commitments to Indigenous inclusion and cultural capability (e.g. DELWP 2015, CFA 2014, QFES 2017). However, these:

1. address diverse Indigenous nations, individuals, communities and landholders as stakeholders, meaning they are addressed as one voice amongst others with no distinct status as First Peoples and rights holders, nor as part of the broader pan-Aboriginal identity; and,

2. rarely match statements with enabling policies, resourcing or budgets to operationalise the partnership intent.

Instead, our research and research by others shows 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 and other engagements with Aboriginal communities happen (e.g. Darug Ngurra et al. 2019, Maclean, Robinson, and Costello 2018, Neale et al. 2019, Smith et al. 2021, and Freeman et al. in press).

Thus, we see the next step is for State and Territory governments to move beyond general commitments of 'support' to instead develop specific policies in relation to land and emergency management activities that demonstrably grow and maximise opportunities for Aboriginal peoples' engagement and partnership. These policies should be:

- developed in coordination with Aboriginal peoples, groups and networks engaged in these issues, providing a context for partnership arrangements and management objectives to be appropriate to diverse Aboriginal peoples and their regional and landscape contexts;

- based in principles of Indigenous self-determination and non-discrimination, addressing both general and specific issues, and be developed on meaningful terms in collaboration with Aboriginal peoples and their organisations; and,

- supported by allocating ongoing budgetary lines, as well as appropriate funding models, for Aboriginal people working both within and with the sector. This includes funding to participate in collaborations and implement them, as well as funding for Aboriginal governance.

Partnership approaches, like that being developed in Victoria through the *Victorian Traditional Owner Cultural Fire Strategy* (VTOCFKG 2019) and recommended in other national contexts (e.g. House of Commons 2018), are beginning to support greater procedural equality for Indigenous peoples in

regulatory and governance structures from which they are currently excluded or marginalised.

Centring Country and First Peoples

It is clear from our research that if emerging collaborations are to be sustainable, Aboriginal people need to be centred on meaningful terms across a suite of natural hazard practices and policies. As First Peoples, Aboriginal people are not just another community or interest group, but have laws, customs, cultures, economies, knowledge and more that are embedded in Country. This is what gives rise to their distinct rights and responsibilities with respect to their ancestors, each other, and the Federation of Australia (Weir et al. 2020).

Across the project, all non-indigenous research participants in the sector understood that all of Australia is Country – the inheritance of First Peoples – and, therefore, that natural hazard management necessitated collaborative work with Aboriginal peoples. Across both Aboriginal and non-indigenous research participants, there were two main implications of this understanding:

- the authoritative status and ongoing role of First Peoples in Australia; and,

- the contribution of Aboriginal peoples' priorities and/or knowledge in natural hazard mitigation, land management and conservation.

Amongst non-indigenous participants, we found various views regarding whether these two implications required a significant reorganisation of sector policy and practice or not. Whereas Aboriginal participants were clear that the acknowledgment of Country has comprehensive implications for sector understandings and management of natural hazards, land, and ecologies, as well as public sector governance and societal norms more generally.

All who saw Country as of substantive consequence for the sector also grasped that this was a difficult agenda to address because of previous policies and programs (e.g. Smith, Weir, and Neale 2018). However, Aboriginal participants were clear on the first steps needed for the sector to centre Country and First Peoples these being:

- greater respect and support for First Peoples, including matters of cultural safety more broadly;

- more equitable sharing of resources and decision-making authority with First Peoples specifically, and Aboriginal people more generally, both within and external to the sector;

- more opportunities for Aboriginal people to engage with First Peoples, and on more meaningful terms, both within and external to the sector;

- more capacity within the sector to identify and address racism and discrimination; and,

- more education for the sector, and society more generally, about centring Country and its implications.

From our research, we identify the following key steps for the natural hazard sector in order to evolve agency culture:

- support Aboriginal peoples' governance organisations to lead, partner and participate in natural hazard risk and resilience, and land and water management more generally;

- ensure that Aboriginal staff are present across all levels of agency decision-making. In particular, executive forums that have largely excluded Indigenous staff because Indigenous staff have not been recruited or promoted to this level;

- build capacity in sector understandings about Country as a required expertise for all public servants across all employment levels. An often-raised example is the sector's own emergency management training;

- build capacity in principles of non-discrimination as a required expertise for all public servants across all employment levels. In particular, the difference between substantive and formal equality needs to be more widely understood to address racism and discrimination perpetuated by both individuals and systems (Dodson, Strelein, and Weir 2001); and,

- support knowledge exchange and networking for Aboriginal and non-indigenous practitioners to learn about working together and mentor each other.

Administration and regulation

The natural hazard sector is renowned for its highly codified regulation which is responsive to the high-risk work, including overall oversight and control of the application of fire on all land tenures; however, there are clear gaps and inconsistences when it comes to Aboriginal peoples' priorities and interests. There are many examples where administrative forms are not fit for purpose and generate significant challenges for Aboriginal peoples, and thus establishing and sustaining collaborations with Aboriginal peoples. In addition, Aboriginal peoples and communities typically have little procedural traction with these regulatory processes, which presume the absence of their political-legal presence.

For example, emergency management agencies set and administer the qualifications required for individuals to plan, oversee or attend a burn. There are various reasons why Aboriginal peoples might not be able or willing to complete these qualifications, including:

- they see them as condescending, involve exposure to hostile non-indigenous peoples, and, or, occur in the context of fraught interpersonal and intercultural relationships (see Weir and Freeman 2019).

- some Aboriginal peoples are not able to complete these qualifications due to lack of resources, criminal records, lack of drivers' licence, literacy or other reasons; and,

> *"Yeah, well, there wasn't much engaging before, but I think it's improving through having conversations with guys, but the best place for the conversation is out on Country when we're doing burns. So, when we burn, we invite some [rural fire service] members to come along and when we're in that space, we can really have a meaningful conversation and attitudes change."* – ACT/NSW Aboriginal fire practitioner, interviewed by Will Smith.

- there is a lack of state wide policy and budgets to facilitate more culturally appropriate and equitable training regimes. Further, where exceptions are made, these occur at the discretion of regional staff and regional budgets and therefore do not affect the need for state wide policy reforms and budgets for more culturally appropriate and equitable training regimes.

There is a clear need for more culturally appropriate and equitable regulatory, training and qualification regimes for bushfire management across Australia. For example:

- **Codes:** changes to bushfire codes of practice to enable Aboriginal community members to participate and lead cultural burns, including provisions for individuals (e.g. Elders and children) for whom standard bushfire management training and qualification are inappropriate;

- **Employment:** re-consider agency job design, levels, reporting and paperwork norms and responsibilities to support and recompense the cultural authority brought into the public sector by Aboriginal people;

- **Partnership:** embed policy support for the sector to take partnership approaches to Aboriginal communities, and establish clear public sector reporting of agency performance in these activities;

- **Training:** changes to standard bushfire management training and qualifications (e.g. general firefighter training) to ensure they are culturally appropriate to Aboriginal participants, centre Aboriginal educators, and make awareness of Aboriginal peoples' rights and inherited fire responsibilities to look after Country compulsory for all participants; and,

Funding: seriously examine the fit of current funding schemes to the context of temperate southern Australia, for example, greater consideration needs to be given to the wide variance in the costs of completing a cultural burn, and the fit of current funding schemes.

Evidence and erasure

There is a close relationship between the kinds of evidence that have been pursued by academics, and the options that are considered in policy and inquiry processes. This is evident in a paper that summarises important matters raised by inquiries, without mentioning Aboriginal peoples and their priorities at all (Lawson et al. 2017). Further, across our research participants, what counts as "expert evidence" in government contexts was understood as a significant issue: that is, it was understood that certain kinds of "hard science" or quantitative research are perceived as having greater authority with policymakers and practitioners in fire and land management agencies. Without expertise in values, meaning, interpretation and argument, this preference for a certain kind of academic evidence undermines the capacity of practitioners to navigate cultural burning politics, prescribed burning politics, and so on. For example, Western scientific research on the ecological benefits and costs of Indigenous peoples' pre-colonial burning practices has generated narratives and theories about the intent and occurrence of these burns (Neale et al. 2020; Neale 2020). Problematically, however, this academic research has:

a) speculated about pre-colonial landscapes and cultures over time scales of multiple millennia based on select sampled points. This work generates irreducible uncertainties that leaves the findings open to significant debate; and

b) rarely involved Aboriginal peoples in these debates.

Where contemporary Aboriginal peoples have been included, they have usually been treated as indexes for their ancestors rather than the holders of rights or interests in the production of knowledge about those ancestors. It continues to be common for non-indigenous academics to report "that repositories of this [Indigenous] knowledge are mostly lost and any reconstructed [fire] regime would largely be speculative" (Esplin, Gill, and Enright 2003, 119).

As a result of this perspective, which ignores the priorities and responsibilities of living Aboriginal peoples, Aboriginal perspectives have been largely excluded from the processes of policy change. As Williamson et al. (2020, 14) state in relation to the 2009 Victorian Bushfire Royal Commission, "Aboriginal peoples are primarily relegated to an historical footnote, rather than featuring as contemporary residents, as First Peoples, as land and rights holders, or as part of contemporary fire management."

The natural hazards management sector has taken initiatives to challenge these dynamics (e.g. Smith, Weir, and Neale 2018; COAG 2011), learning substantively from working directly with Aboriginal people and their organisations (Weir and Freeman 2019; Weir et al. 2020); however, this needs to go further if the sector is to engage with Indigenous peoples' research methods, norms and knowledge practices, including approaches to land management with the logics of Country.

We find that the next steps for the natural hazard sector, associated research funders and institutions, and the public sector more generally, is to address this research imbalance and deficit by creating funding streams that are:

- **Indigenous Led:** as directed by Australian government research protocols (AIATSIS 2012, NHMRC 2018), Indigenous people are to be involved in leadership positions at all stages of the research development, including scoping the research funding stream itself.

- **Long term:** long timeframes (i.e. 7-10 years) are vital for conducting research with Aboriginal people, in order to ensure that the research meets ethical standards, is based on sound partnerships, and provides appropriate time for the development, review and dissemination of research findings.

- **Action research:** research projects are to engage members of Aboriginal communities as researchers and research advisors throughout the research process and have outcomes for Aboriginal research participants. This may require specific research training, such as ARPNet, as well as providing time and resources for un-waged Aboriginal peoples to participate.

- **Equity:** Indigenous peoples are often excluded or treated as mere stakeholders in research projects that directly relate to their rights and

interests in Country. Research funding should only be available to projects led by an Aboriginal organisation, conducted in partnership with an Aboriginal organisation, direct a majority of their funding to Aboriginal parties, and, or, as defined by Aboriginal research leaders. Such funding must also only be granted where there are robust protections for Aboriginal peoples' intellectual property and self-determination (AIATSIS 2012), and where applications have been assessed in terms of both their equitable partnership with Aboriginal peoples and their contribution to the research.

Accounting and reporting

Our research showed that there was very little attention given by the sector to accounting and reporting their policy commitments and legal obligations towards Aboriginal peoples, reducing sector transparency, accountability and coordination. This is despite the high levels of accounting and reporting the sector undertakes, in part because of its accountability to inquiry processes (Eburn and Dovers 2015). In particular, we note:

- **Staffing:** a preliminary study (Neale, Smith, and Leavesley 2019) based on annual reports and elicited data showed that many land and emergency management agencies do not currently collect data on the number of Indigenous-identifying staff (or their roles, levels, etc.). Further, most agencies do not have Indigenous employment targets, publicly available Reconciliation Action Plans, or other common Indigenous equity policies. With limited evidence, we found that Aboriginal people are employed at lower rates compared with the proportional population statistics for each relevant state or territory.

- **Activities:** at present, where land and emergency management agencies report publicly on their collaborations with Indigenous communities (i.e. through cultural burns, Indigenous firefighting units, Indigenous peoples trained in agency firefighting accreditations etc.) it is routinely through narrative case studies or single projects. For example, with the exception of DELWP/FFM, no agencies in Australia publicly report on the number of cultural burns they resource or support in a given year or the budgets and staff they devote to Indigenous-specific programs. The ACT Parks and Conservation Service list cultural burns in their annual Bushfire Operational Plan, with regular media coverage, but not in the Environment Directorate's annual report. Where cultural burns are occurring in southeast Australia, current evidence suggests these typically are not supported by specific budgets, policies or guidelines (e.g. Neale et al. 2019).

- **Contracting:** anecdotally, many land and emergency management agencies engage Aboriginal organisations to deliver services relating to their core business, including policy development. These services include cultural heritage assessments, cultural awareness training, cultural burn and prescribed burn site preparation and burn execution, community consultation, and more. In certain cases, agencies have policy targets or obligations under native title or Indigenous land agreements to contract a certain amount or percentage of their services in a given year to

Indigenous organisations, however this is relatively rare. Reporting about these arrangements is even rarer.

Land and emergency management agencies typically operate in fiscally constrained environments where, due to institutional conservatism and regular performance auditing, measures of performance heavily influence agency priorities and actions. Within this context, where "you manage what you measure", the general lack of performance indicators in relation to Indigenous communities are an obstacle to improved outcomes (see Walter and Andersen 2013). For example, agencies can currently state that they support cultural burning while making few or no actual budgetary or resourcing commitments to it. It is apparent that a series of questions needs to be asked, including: how is sector performance currently measured and reported; who performs this reporting and where is it published; and, what is the purpose of this reporting?

In order to support the accountability of land and emergency management agencies to Indigenous communities, we suggest that:

- **Employment, policy and contract reporting:** All land and emergency management agencies should include in their annual reports: a) details about the number of Indigenous-identifying staff; b) details about current Indigenous employment targets, Reconciliation Action Plans and other relevant policies; and c) details about the amount and percentage of their annual budgets that they spend on contracting services from Indigenous organisations.

- **Activity reporting:** Land management agencies should include in their annual reports: a) details about the number of cultural burns they have resourced or supported; b) details about the number of Indigenous peoples they have supported through relevant land and fire management training and qualifications. We emphasise that conducting a cultural burn in of itself is not necessarily a good outcome, as the value of the cultural burn is dependent on the meaningful involvement of First Peoples.

- **Partnership reporting:** All land and emergency management agencies should include in their annual reports any progress they have made towards partnership approaches with First Peoples for natural hazards resilience, including whether they have internal Indigenous advisory or governance units.

Like many other branches of public administration, targets and reporting are key drivers of activity and achievement in bushfire management, however the only relevant quantified performance indicators currently used across southern Australia relate to the employment of Aboriginal peoples, and data relevant to these basic indicators is very uneven (Neale et al. 2019). In partnership with representative Indigenous bodies, agencies should identify and publicly report on clear and quantifiable indicators of their performance in collaborating with Indigenous communities. However, in order to do this, we argue that the sector and Aboriginal peoples have to build capacity, meet, and be more organised across larger regions. To do so, we suggest:

- **Policy group:** The founding of a national 'Indigenous Partnerships and Policy' group for natural hazards management. This group would bring together representatives from Australia's land and emergency management agencies to review and coordinate relevant principles (e.g. Indigenous governance (VTOCFKG 2019), 'right fire' (Steffensen 2019)), policies (e.g. Indigenous staffing, native title and land rights obligations (Norman 2018)), cultural burning protocols and accountability frameworks and reporting. The ideal location for this initiative would be within an organisation with ongoing industry buy-in, such as AFAC, and should be coordinated with existing and emerging relevant state initiatives (e.g. WA Bushfire Centre of Excellence).

- **Supported knowledge exchange and networking:** Federal, State and Territory agencies should support or convene events that bring together Indigenous and non-indigenous practitioners engaged in natural hazard risk management, preparedness, resilience and recovery collaborations with Indigenous communities, in order to share knowledge and create supporting networks. These events should be organised and funded in order to maximise geographical representation of different Indigenous communities. As we have reported, it is particularly important to connect the cultural burning activity in south eastern Australia with southern Western Australia and southern South Australia (Weir and Freeman 2019).

- **Network:** a national Indigenous bushfire practitioners' network should be founded and supported by land and emergency management agencies. This group would bring together both volunteer and paid practitioners actively engaged in collaborative land and bushfire management initiatives with Indigenous communities, including – but not only – cultural burning programs. This initiative would need to be Indigenous-led and could be coordinated through an organisation with ongoing industry buy-in, such as AFAC (see Smith, Weir, and Neale 2019, 4), or through existing and emerging relevant initiatives (e.g. Firesticks Alliance, Koori Country Firesticks).

In short, this project suggests that land and emergency management agencies need to:

a) establish consistent performance indicators relating to their collaborations with Aboriginal peoples in bushfire management;

b) invest time and resources into networks and agency capacity to support them; and,

c) support Aboriginal peoples' capacity to take the leadership roles to grow public sector capacity in more meaningful and purposeful reporting and accounting.

The Victorian Government's Self-Determination Reform Framework 2019 is an example of how to do this, setting 'accountability' as one of its four priorities and requiring all government agencies to establish plans in collaboration with Aboriginal leadership to support Aboriginal self-determination. This led to DELWP's recent 'Pupangarli Marnmarnepu 'Owning Our Future' Aboriginal Self-Determination Reform Strategy 2020-2025' (DELWP 2020) which establishes clear

performance indicators including: number of cultural burns, number of Aboriginal staff in senior positions, and number of partnership agreements with Traditional Owner groups. We are not proposing that this framework, strategy and indicators is ideal, but that it is an industry initiative to learn from.

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KEY MILESTONES

LITERATURE REVIEW

The natural hazard sector's engagement with Indigenous peoples: a critical review of CANZUS countries

Dr Annick Thomassin, Dr Timothy Neale and Dr Jessica Weir completed a comprehensive literature review of engagements between Indigenous peoples and government natural hazards agencies in Canada, Australia, Aotearoa / New Zealand and the United States (or CANZUS countries). The international coverage was necessary because of the lack of Australian literature. The review draws on existing academic and grey literature to explore recent and ongoing collaborations and provides insights to natural hazard management agencies' interactions with Indigenous peoples. The review has been published as a journal article in *Geographical Research*:

- Thomassin, A, Neale, T, and Weir, JK. (2019). "The natural hazard sector's engagement with Indigenous peoples: a critical review of CANZUS countries." *Geographical Research* 57.2: 164-177.

CASE STUDIES

1. Dja Dja Wurrung/Loddon-Mallee case study

Dr Timothy Neale conducted interviews and fieldwork with Aboriginal and non-indigenous practitioners involved in the 'Djandak Wi' collaborative bushfire management project in the Loddon-Mallee region. This case study led to other engagement opportunities – including supporting presentations by Dja Dja Wurrung fire practitioners, advising parties engaged in the Victorian Traditional Owner Cultural Fire Strategy process, and travelling to the 2019 Native American and Indigenous Studies Association meeting with Scott Falconer (Assistant Chief Fire Officer Loddon-Mallee Region, DELWP) – as well as published outputs. A peer-reviewed article based on case study data was published in *Cultural Geographies* in 2019. A second discussion article, collaboratively written with two Dja Dja Wurrung practitioners, was published with *Postcolonial Studies* in 2020.

- Bourke, M, Atkinson, A and T Neale. (2020) Putting Country back together: a conversation about collaboration and Aboriginal fire management, *Postcolonial Studies*, 23(4): 546-551.

- Neale, T, Carter, R, Nelson, T, and Bourke, M. (2019). Walking together: a decolonising experiment in bushfire management on Dja Dja Wurrung country. *Cultural Geographies* 28.6: 341-359.

2. Murumbung Rangers and ACT Parks and Conservation Service case study

Dr Jessica Weir conducted interviews and fieldwork with government staff involved in the ACT Parks and Conservation Service cultural burning program, as well as several people from the Aboriginal and non-indigenous community. In

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support of this program, a report was provided to ACTPCS about a fire workshop convened by the ACT government with Aboriginal staff. A book chapter was published in 2020 about the cultural burning program and the emerging field of Disaster Justice. A journal article is in press, led by end-user Dean Freeman and research colleague Bhiamie Williamson, who had roles in developing the ACTPCS program as Aboriginal public servants. Dr Weir also travelled to southern Western Australia with Dean Freeman, who presented on the ACTPCS cultural burning program as part of a knowledge exchange, and published as a BNHCRC report.

- Freeman, D, Williamson, B and, Weir, JK. (in press). Cultural burning and public sector practice in the Australian Capital Territory, *Geographical Research*.

- Weir, JK, Sutton, S and Catt, G. (2020) 'Indigenous peoples' fire management and the theory/practice of Disaster Justice', in A Lukasiewicz and C Baldwin (eds), *Disaster Justice: How Australia rises to the challenge of a disaster laden future*, Palgrave Macmillan: Chicago, 299-317.

- Weir, JK, and Freeman, D. (2019) Fire in the south: a cross-continental exchange. Bushfire & Natural Hazards CRC, Melbourne.

- Smith, W, Weir, JK and Neale, T. (2018) Southeast Australia Aboriginal fire forum. Bushfire and Natural Hazards CRC, Melbourne.

PRACTITIONER INTERVIEWS

The practitioner survey comprised of structured interviews with key decision-makers such as Aboriginal fire practitioners, land management agencies (e.g., parks services, catchment management groups) and emergency management services across southern Australia currently engaged in new and emerging collaborations with Aboriginal peoples. These have almost exclusively focused on cultural burning activities. The data gathered from this activity formed the basis of a journal article:

- Smith, W, Neale T, and Weir, JK. (2021). Persuasion without policies: The work of reviving Indigenous fire management in southern Australia, *Geoforum*, 20: 82-92.

SOCIO-INSTITUTIONAL MODULES

The Socio-Institutional Modules provide background information about both the natural hazards management sector and Indigenous peoples and their communities, for readers who are unfamiliar with either or both. They were created in response to a specific request by end-users, and are designed to support existing and potential collaborations between the natural hazards management sector and Indigenous peoples and their communities. The modules set out general information across five topics:

- governance norms;

- natural hazards management sector terminology;

- language and meaning;

- agreement making; and,

- resources.

We have used the term 'module' rather than 'guide' to ensure readers understand these are simply presented as tools and are not intended to provide advice about the priorities and values of Indigenous peoples. It is particularly important for non-indigenous people to learn directly from the Indigenous people they are collaborating with. Further, each collaboration will have specific cultural, social, legal, institutional and other norms, structures and processes.

- Weir, JK, Smith, W, and Neale, T. (2020) Hazards, Culture and Indigenous Communities: Socio-Institutional modules for utilisation. Bushfire and Natural Hazards CRC, Melbourne.

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EMBEDDED RESEARCH, UTILISATION AND IMPACT

Pipeline or linear models of research utilisation and impact fail to understand the dynamic and uncertain process of research creation and industry utilisation, which is always a social matter (Owen, Krusel, and Bethune 2020). When it comes to qualitative research using participatory and collaborative methods, the opportunities for utilisation and impact occur in tandem with, and as part of, the research generation, analysis and outputs. It is important to move away from simplistic linear understandings in order to maximise research utilisation and impact, including through acknowledging, investing in and rewarding this work.

In the HCIC project, research team members worked alongside natural hazard practitioners, including attending research and industry events together, and co-presenting and co-authoring papers and posters. Throughout, team members provided practitioners preliminary research results, which then potentially could be of immediate use, depending on their utility and the agency and practitioner context. The importance of investing time and intellectual energy into these social connections, as well as creating opportunities for people to meet and learn from each other, cannot be underestimated, as Owen et al. (2020, 59) write:

> *If discussions support slow thinking to cycle through iterations of processing information and meaning-making, practitioners are more likely to arrive at a deliberate conclusion rather than a default, reactive approach, which has been identified as impeding practitioner learning (Owen et al. 2018). In addition, face-to-face discussions provide a richer environment where participants can detect body language or other visual cues and use this to process meaning or disagreement.*

This is critical because, as Owen et al. (2020, 59) continue:

> *When there are governance processes in place, activities associated with research utilisation are codified, linked to the business and monitored. Without these processes, research utilisation relies on passionate individuals whose actions are lost from corporate memory once those individuals leave. Implementation does not rely solely on whether these organisational systems are present. When collective efficacy is weak, then implementation, regardless of governance processes or resources available, is likely to be resisted. If implementation of changes arising from research findings is enacted, it is likely to demonstrate compliance rather than commitment. When commitment and collective efficacy is high, resources will be used skilfully, and efforts may exceed those listed in job functions.*

Documenting, measuring and thus counting social and institutional learning, as well as the extent of qualitative research impacts, is difficult precisely because they are often intangible as socio-cultural experiences and norms. Nonetheless, within our embedded research-utilisation context, there were identifiable activities and outputs for research utilisation. These are described below, with each describing the output, its use and utilisation potential and impact.

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KEY UTILISATION ACTIVITIES, OUTPUTS AND IMPACTS

Practitioner and policymaker networking

Prior to this project there were limited opportunities for sector practitioners and policymakers working on these complex matters to meet others engaged in similar matters or projects outside of their own agencies or jurisdictions. Through the project, end-users became known to each other, effectively gaining their own mentoring group. This was particularly important given the vast distances of southern Australia. As part of creating this temporary network we: convened regular end-user meetings every 6 months, circulated a quarterly newsletter, and facilitated the exchange of in-house policy and practice documents through emails and shared folders. Our collaborative approach is evident in the co-authorship of our annual AFAC poster with the end-user group (see 'Publications'). This network was of immediate utility to the sector during the project. However, now that the project has finished, there is no forum for these different individuals to keep meeting and share learnings with input from research and Aboriginal leadership.

Anecdotally, we have observed how stronger relationships continue informally, with self-sustained relationships of information-sharing and collaboration formed between colleagues in different regions and agencies. But, we recommend, a formal practitioner network needs to be established.

We have:

- encouraged our end-users to approach AFAC to establish this as a Technical Group, both in meetings and in our reporting; and,

- sought to explore such options through applying for utilisation funds.

Connecting East and West Aboriginal fire practitioners and practice

In 2018 we prioritised a knowledge exchange trip for Aboriginal people between east and west Australia, as facilitated by Ngadju Conservation Aboriginal Corporation. This was responsive to end-user requests in the initial project design and was done so without any additional budget allocation. The trip was also assisted logistically by Gondwana link.

The trip would not have been impactful without Wiradjuri man and ACTPCS Aboriginal Fire Officer Dean Freeman, who spoke directly of his experiences as an Aboriginal person in the public service, as well as the development of the cultural burning program, answering questions that might not otherwise been asked – including 'can anyone do fire training?'. He also set an example for the young Aboriginal people we met in different communities and showed how the government has been able to support cultural burns within existing programs. He established relationships with both Aboriginal organisations and government practitioners.

The value of this trip was immediately apparent given the different socio-cultural policy and practice norms in southeast Australia, which have moved away from requiring native title or lands rights as a precursor qualification prior to the government undertaking collaborative land management. In response to end-user requests, this knowledge exchange was documented as a BNHCRC report, and has been widely circulated. We remain in touch, and keep exchanging knowledge and updates, co-authoring articles, and planning new research activities. Notably, after our visit, the First Peoples of southern Western Australia met in 2019 on former mission lands at Roelands Village, to discuss their fire priorities that span from Jurien to Eucla.

PHOTO: THE NGADJU RANGERS WITH DEAN FREEMAN AT THE NORSEMAN HOSPITAL, ON THE SITE OF A CULTURAL BURN (SEE FURTHER WEIR AND FREEMAN 2019).

PHOTO: THE NOWANUP CREW, PLUS DEAN FREEMAN, JESSICA WEIR AND KEITH BRADBY (GONDWANA LINK) (SEE FURTHER WEIR AND FREEMAN 2019).

Expert advice

Over the life of the project, project team members were called on to provide advice to emerging policy and practice as required, including as part of official inquiry processes following the 2019-2020 bushfire season.

In addition to the end-user meetings, BNHCRC and AFAC functions, as well as everyday conversations as part of case study fieldwork:

- Dr Smith, Dr Weir and Dr Neale all attended the 2018 South East Australia Aboriginal Fire Forum (SEAAFF) in Canberra and, at the request of end-users, produced an independent report on the proceedings.

- Dr Neale and Dr Smith were involved in providing advice to the Federation of Victorian Traditional Owner Corporations as part of the Victorian Traditional Owner Cultural Fire Strategy process from 2017-2020. This occurred through briefings, attendance at the meetings of the Victorian Traditional Owner Cultural Fire Knowledge Group, and assistance coordinating of meeting regarding a science and research program to compliment the Strategy.

- Dr Neale participated as a volunteer at the 2019 National Indigenous Fire Workshop at Dhungala on Yorta Yorta Country, acting as a scribe and photographer and contributing to the Workshop's reporting.

- In 2018 Dr Weir provided advice to Ngadju Conservation Aboriginal Corporation and WA DFES about the consequences of native title for fire management on native title lands.

Project team members also led four written submissions to different State and Federal inquiries called after the 2019-2020 bushfire season (see 'Publications'). Two project team members – Dr Neale and Mr Costello – were subsequently called upon to give evidence as expert witnesses to the Royal Commission into Natural Disaster Arrangements.

IMAGE: DR TIMOTHY NEALE GIVING EXPERT EVIDENCE TO THE ROYAL COMMISSION, 18 JUNE 2020, IN A SESSION WITH MS VANESSA CAVANAGH, MR BHIAMIE WILLIAMSON AND DR MICHAEL-SHAUN FLETCHER.

Co-creating outputs, co-creating impact

Project team members prioritised co-creating research outputs as part of reciprocity with our research participants, to maximise research engagement and utilisation, as well as to promote Aboriginal voices in a project led by two non-indigenous researchers. Again, the utilisation was immediate and also will likely have greater impact within the sector because of the co-creation.

For example, project team members have coordinated and collaborated in a number of conference events and panels centring on project research. These include:

- AFAC conference, 5-8 September 2017 in Sydney. Dr Neale and Dr Weir contributed to presentations within the landmark 'Indigenous Fire Management' keynote plenary.

- Native American Indigenous Studies Association conference, 26 July 2019 in Aotearoa / New Zealand. Dr Neale co-organised a panel on Indigenous fire management with Mr Bhiamie Williamson (ANU), which included presentations by project team members (Dr Weir, Dr Neale), national and international scholars, and sector practitioners (Scott Falconer).

- GEO-SAFE Wildfire Conference, 11-15 November 2019 in Melbourne. Dr Neale was a member of Program Committee and organised a panel based on Indigenous fire management with Dr Jack Pascoe (Conservation Ecology Centre), Dr Michael-Shaun Fletcher (University of Melbourne) and Mr Matthew Shanks (FVTOC).

IMAGE: PRESENTATION AT NATIVE AMERICAN INDIGENOUS STUDIES ASSOCIATION CONFERENCE, HAMILTON, AOTEAROA / NEW ZEALAND. FROM LEFT TO RIGHT: TIMOTHY NEALE, KARI NORGAARD, JESSICA ANN CONRAD, BRUNO SERAPHIN, RYAN REED, BHIAMIE WILLIAMSON, JESSICA WEIR, AND SCOTT FALCONER.

Industry workshop 2018

Dr Weir convened the workshop "Fire, Risk, Culture: Unpacking our intercultural relationships" with Mr Stephen Sutton and Mr Gareth Catt, in Perth at the 2018 AFAC conference. This workshop comprised of three short presentations from southern, central and northern Australia. They were given with the support of our Aboriginal partners – including traditional owner groups from Arnhem Land, Martu people from the Western Desert, and the Murumbung Rangers in Canberra.

A professionally facilitated discussion was held with the audience of over sixty people, including strong representation from Aboriginal people as both practitioners and community members. With their leadership, two recommendations were put forward by the workshop:

- A network be established for Aboriginal people who are volunteers and/or agency staff in the emergency management sector; and,

- The Australasian Fire and Emergency Services Authorities Council have an Aboriginal reference group, drawn from this network, to provide an Aboriginal 'voice' at their meetings.

The creation of these recommendations reflects what is possible when Indigenous people have the opportunity to meet, discuss their priorities, and provide leadership to the sector.

We have:

- encouraged our end-users to approach AFAC to establish this as an Aboriginal reference group, as well as support a volunteer network, both in meetings and in our reporting; and,

- explored options for funding utilisation workshops to support further learning and networking – currently on hold given the global pandemic.

To our knowledge, there is yet to be any action on this. We anticipate that these recommendations will be seriously considered as part of agency responses to the 2019-20 bushfires.

Industry reports, learning modules and opinion pieces

We prioritised the creation of industry reports, learning modules, opinion pieces and a short film to inform this fast-moving policy and practice space.

1. Industry reports and learning modules

- Smith, W., Weir, JK., and Neale, T. (2018) Southeast Australia Aboriginal fire forum: an independent Research Report. Bushfire and Natural Hazards CRC, Melbourne.

This report was written based on the research team's attendance at the 2018 Southeast Australia Aboriginal fire forum in Canberra, and organised by the ACT Environment Directorate. The report was requested by the Murumbung Rangers and provided to ACTPCS as part of our reciprocal research relationship with them. The report summarises discussions from the event between multiple Indigenous and non-indigenous parties engaged in cultural burning projects and research. The report includes a Foreword by project member Oliver Costello (Firesticks Alliance).

- Weir, J. and Freeman, D. (2019) Fire in the south: a cross-continental exchange. Bushfire & Natural Hazards CRC, Melbourne.

This report is based on Jessica Weir and Dean Freeman's trip across southern Western Australia to exchange knowledge from south eastern Australia about cultural burning with Traditional Owners and fire authorities. The report brings together learnings from meetings Dr Weir and Mr Freeman were invited to in Norseman, Esperance, Nowanup, Albany, Bunbury and Perth. It includes a Foreword by Ngadju Elder Les Schultz, who invited us to visit Ngadju Country, and helped facilitate other meetings.

- Weir, JK., Smith, W., and Neale, T. (2020) Hazards, Culture and Indigenous Communities: Socio-Institutional modules for utilisation. Bushfire and Natural Hazards CRC, Melbourne.

We produced the Socio-Institutional Modules in response to end-user requests in the design phase, who desired guidelines to assist work in this complex intercultural space. They provide background information about both the natural hazards management sector and Indigenous peoples and their communities. We prioritised matters that were repeatedly raised during the project. They are designed as a '101' introduction. We received strong end-user support during their drafting.

The two reports were circulated whilst we continued with our research program. We regularly received feedback about their utility, including as translation tools for Aboriginal and non-indigenous practitioners to provide to people new to this space. Their influence was apparent in the changing language and understandings that we saw in our own end-user group, and with other end-users.

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The Socio-Institutional Modules were completed towards the formal end of the HCIC project.

2. Opinion pieces

We wrote six opinion pieces to circulate the research findings in non-traditional forums, and expand our audience, with four articles led by an Indigenous author. These are all with prestigious publishers. Understandably, demand for opinion pieces escalated with the 2019-2020 bushfire season.

- Schultz, L, Weir JK and H Langley. (2019) Changing fire policy for the Good Earth. *Policy Forum,* 3 October 2019.

- Williamson, B, Weir JK and V Cavanagh, 2020. Strength from perpetual grief: how Aboriginal people experience the bushfire crisis, *The Conversation* 10 January 2020.

- Schultz, L, Weir JK and H Langley, 2020. Living with fire demands a long-term perspective. *Policy Forum,* 14 January 2020.

- Neale T (2020) What are whitefellas talking about when we talk about "cultural burning"? *Inside Story*.

- Williamson, B, Markham, F and Weir JK. (2020) 1 in 10 children affected by bushfires is Indigenous. We've been ignoring them for too long, *The Conversation,* 2 April 2020.

- Weir, JK. (2020) Bushfire lessons from cultural burning. *Australian Journal of Emergency Management*, July 2020.

3. Short video

Dr Neale participated in the production of a short video titled 'Coexisting with combustion: the future of bushfire management' produced by Deakin University and released in March 2019. The video has been viewed over 200 times and used in multiple presentations by DELWP and Dja Dja Wurrung CAC staff.

International engagement

The project has engaged with international scholarship and forums throughout, as part of research excellence. The value of this project globally is also reflected in a number of prestigious invitations:

- In Chile in 2018, Dr Neale was part of policy panel on bushfire management with Chilean fire authorities, and also gave a keynote lecture at the Research Centre for Integrated Disaster Risk Management (CIGIDEN).

- In Philadelphia in 2018, Dr Neale gave a symposium and a seminar at Drexel University's Centre for Science, Technology & Society.

- In Boston in 2019, Dr Neale gave invited seminars at Johns Hopkins University in Baltimore and Massachusetts Institute of Technology in Boston. He also presented a paper at the annual meeting of the American Association of Geographers in Washington D.C.

- In Santa Cruz in 2019, Dr Neale was invited to give a keynote at the University of California Santa Cruz.

- In Seattle in 2020, Dr Weir gave a symposium at the Simpson Centre for the Humanities, co-sponsored by the University of Washington's School of Marine and Environmental Affairs, Program on the Environment, and EarthLab. Dr Weir also taught into two graduate classrooms.

- In Stanford in 2020, Dr Weir was invited to give a Colloquium at the Woods Institute, Stanford University, as well as teaching into the classroom.

Further evidence of impact

There were so many different ways that research from this project was shared and used as part of the response to the 2019-2020 Bushfires which, for the first time, centred Indigenous peoples' contemporary fire practices in the public debate. To give two examples:

- The opinion piece 'Strength from perpetual grief' co-authored by Dr Weir, was viewed over 67,000 times, and was reprinted in French as '[Les communautés aborigènes face à la crise des méga-feux](#)'. This generated more media interest. Dr Weir passed on to Indigenous co-authors the media approaches she received from Radio Canada, Scandinavian Radio, the ABC, SBS News, NITV news, the BBC and Al Jazeera. Dr Weir undertook media interviews with Christian Science Monitor, Albury Advertiser, and 2SER radio.

- Dr Neale's appearance as an expert witness for the Royal Commission in Natural Disaster Arrangements led to significant media coverage quoting Dr Neale across over 160 outlets, including coverage by *7News*.

The value of our research to policy was evident in it being cited in influential publications, including the CSIRO Report on Climate and Disaster Resilience, and The Lowitja Institute Closing the Gap report.

We were also invited to be part of an impactful academic forum:

- Dr Weir was invited by Engagement Australia, the peak body representing most Australian universities on engagement, to present at the Leadership Forum in February 2020, preceding their national conference. The forum was attending by Vice Chancellors and senior executive staff.

FUTURE IMPACT POTENTIAL

The potential for future impact is immense. This project has identified a clear gap in the research, and made a substantial recommendations in response. The majority of these are for the natural hazard sector to improve its accountability towards Indigenous peoples. We also make recommendations for research and industry decisions about research funding.

With the recent bushfires, there is an expressed demand for greater engagement with Indigenous peoples iconic burning practices. More generally, it may be that the public sector has reached a tipping point, whereby adversarial approaches to working with Indigenous peoples are being authentically replaced with

partnership approaches. In this, the findings are not just of relevance to the natural hazard sector, but across other public sector practice.

The potential for this research to have more impact into the future is reflected in the priority of key policy setting documents. In clause 64, the new *National Agreement on Closing the Gap* for the first time mentions emergency management:

> The Government Parties also commit to engaging with Aboriginal and Torres Strait Islander representatives before, during, and after emergencies such as natural disasters and pandemics to make sure that:
>
> a. government decisions take account of the impact of those decisions on Aboriginal and Torres Strait Islander people
>
> b. Aboriginal and Torres Strait Islander people are not disproportionately affected and can recover as quickly as other Australians from social and economic impacts. (clause 64)

Also, in the recommendations from the 2020 New South Wales bushfires, Aboriginal peoples and their priorities are specifically included:

> **Recommendation 25**
>
> That Government adopt the principle that cultural burning is one component of a broader practice of traditional Aboriginal land management and is an important cultural practice, not simply another technique of hazard reduction burning.
>
> **Recommendation 26**
>
> That, in order to increase the respectful, collaborative and effective use of Aboriginal land management practices in planning and preparing for bush fire, Government commit to pursuing greater application of Aboriginal land management, including cultural burning, through a program to be coordinated by Aboriginal Affairs and Department of Planning, Industry and Environment working in partnership with Aboriginal communities. This should be accompanied by a program of evaluation alongside the scaled-up application of these techniques.

The Royal Commission into National Natural Disaster Arrangements included ten pages under the heading 'Indigenous land and fire management', and made the following recommendations:

> **Recommendation 18.1**
>
> Indigenous land and fire management and natural disaster resilience Australian, state, territory and local governments should engage further with Traditional Owners to explore the relationship between Indigenous land and fire management and natural disaster resilience.
>
> **Recommendation 18.2**
>
> Indigenous land and fire management and public land management Australian, state, territory and local governments should explore further opportunities to leverage Indigenous land and fire management insights,

in the development, planning and execution of public land management activities.

Whilst both the New South Wales and Royal Commission recommendations focus on land management, we anticipate that the sector will be increasingly seeking to collaborate with Indigenous people across the PPRR spectrum.

CONCLUSION

The sector needs to consider committing serious resources to these matters across all natural hazard risk, resilience and mitigation contexts. The commitment needed reflects the breadth and depth of the agenda, and the histories and geographies of discrimination. Fundamentally, sector leadership has to consider: why and how it wishes to collaborate with Indigenous peoples; allocate the resources and time to understand the status quo that has excluded Indigenous people to date; create processes and structures to support Indigenous leadership, participation and collaboration across the sector; and, address deficiencies in how sector performance is currently measured and reported.

NEXT STEPS

Project team members have held several rounds of discussions with end-users about additional utilisation activities, and these are now underway. The project team are committed to working collaboratively with all parties to utilise project findings and develop further supportive research-practice projects and activities.

Given that there is a vast demand for research examining the social, economic, and ecological benefits of contemporary Aboriginal fire management initiatives, and broader natural hazard and sector engagements, we have set out some possible research agendas across the PPRR spectrum for consideration.

Such research needs to be led by an Aboriginal organisation based in the jurisdiction, direct a majority of their funding to Aboriginal parties, and contain protections for Aboriginal peoples' intellectual property and self-determination.

Indigenous governance: *investigating the role of Indigenous governance in natural hazard resilience, including the sector's current responsibilities towards Indigenous peoples' rights and interests.*

Currently, Indigenous peoples' governance work as First Peoples goes largely unfunded, whilst governments are increasingly requiring and expecting Indigenous people to partner and contribute as First Peoples. For example, to attend meetings, give advice and direction, broker agreements and so on. Without established funding from the tax base, as recommended by the Ken Henry Tax Review,[4] Indigenous governance is largely voluntary. This generates problems for all parties, not just in relation to natural hazards, but also environmental management, community infrastructure, economic development and more (Bauman, Strelein and Weir 2013). Indeed, all relate to natural hazard resilience. In the interim, funding for Indigenous governance – staffing, meeting support, offices, and more – is being built into other government and academic activities, including environmental management (e.g. Indigenous Protected Areas), and as stipulated by research ethics of action research projects.[5] This is an inefficient subsidisation.

Indigenous wellbeing and resilience: *investigating Indigenous peoples' involvement in natural hazard resilience, and how that relates to their mental and physical wellbeing, and, thereby, their resilience to natural disasters.*

Whilst there is no simplistic link between the return of land and the generation of Indigenous wellbeing, there is a small body of evidence that Indigenous peoples who engage in forms of Country management have improved biomedical health outcomes (e.g. Burgess et al. 2009, Garnett et al. 2009, Green and Martin 2016). This accords with the assertions made by many Indigenous land and fire management practitioners, that their health, the health of their communities and the health of Country are interrelated and co-constituted (e.g. Kingsley et al. 2009, Prober et al. 2016). Significantly, Indigenous participation in bushfire management may provide important and rare employment opportunities for

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[4] The Ken Henry Tax Review recommended tax reform to fund Indigenous governance https://treasury.gov.au/review/the-australias-future-tax-system-review
[5] https://www.nhmrc.gov.au/research-policy/ethics/ethical-guidelines-research-aboriginal-and-torres-strait-islander-peoples

Indigenous people to work in traditional territories, and in turn support their relations to communities, family, and Country (Darug Ngurra et al. 2019, Barber and Jackson 2017). Further, it is evident that initiatives that engage Indigenous peoples and their knowledge can be understood as having 'governance-value' (Powys-Whyte 2018), meaning that such initiatives have co-benefits for building the governance capacity of Indigenous individuals and communities (see Barber and Jackson 2017).

Socio-ecological resilience: *investigating whether intercultural collaborations can increase socio-ecological resilience more broadly, with our focus here on cultural burning.*

Cultural burning initiatives, in a practical sense, support the creation of relationships between Indigenous peoples, government agencies, private landholders, conservation stakeholders and others, building trust and community cohesion where, in many instances, it is currently lacking (for international examples, see Christianson 2015, Bilbao et al. 2019). Further, as McKemey et al. (2019, 901) argue, there is a strong sense amongst many Indigenous and non-indigenous land and fire management practitioners that cultural burning programs "deliver an array of environmental, social, and cultural benefits that build social–ecological resilience" (see also Maclean et al. 2013). That is, cultural burns are widely understood by practitioners to benefit both the ecologies in which they occur and the people who engage in those burns, and thereby support the capacities of both "to adapt or transform in the face of change in social-ecological systems, particularly unexpected change, in ways that continue to support human well-being" (Folke et al. 2016). This builds on the small but growing qualitative evidence in southern Australia that partnerships between Indigenous and non-indigenous fire practitioners improves land and fire management outcomes (Maclean, Robinson, and Costello 2018, Darug Ngurra et al. 2019, McKemey et al. 2019, Smith, Neale, and Weir 2020), and significant quantitative and qualitative evidence internationally (see Kimmerer and Lake 2001, Scherjon et al. 2015, Fowler and Welch 2018, Lewis, Christianson, and Spinks 2018, Bilbao et al. 2019).

Land tenure changes and management responsibilities: *investigating the consequences of Mabo for the regulation of land management.*

Most State, Territory and Federal jurisdictions have not developed land management policies in response to the native title era, and practitioners are developing their own policies and practices 'on the run' (Weir and Duff 2018). This is a complicated legal matter that requires expert legal advice, as well as advice on policy frames and funding models. Current models are not fit for purpose. This is cross-sector work.

Economic models: *Investigating economic models that are relevant to the geographies of southern temperate Australia*

These need to be developed to ensure the engagement of Indigenous communities in fire and land management will be economically beneficial and sustainable. For example, practitioners and others sometimes note the potential for carbon economies in southern Australia, following the example of savanna fire management for carbon emissions abatement and carbon sequestration projects in northern Australia. However, there are currently no equivalent carbon

farming methodologies in southern Australia and the federal government has not demonstrated interest in developing new carbon farming methods in relation to fire or land management.

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