

AN ANATOMY OF AUSTRALIA'S LEGAL FRAMEWORK FOR BUSHFIRE

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Australian landscapes, people and laws have a long history with fire, but climate change is increasing the frequency and severity of fires and the scale of their impact. In this article, we ask the question: what laws make up the constituent parts, or the anatomy, of our legal framework for bushfire? We propose a novel conceptual model for the full spectrum of laws that relate to bushfire — from the crime of arson through to consumer lending laws and the Constitution — and reveal a complex web of (sometimes competing) values, objectives and substantive tools. Understanding this legal context can help us to prepare more effectively for a future that will be defined by our experience of fire.

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I INTRODUCTION

Fires have always been a part of the Australian landscape, but climate change is driving rapid change in the frequency, geographic scale and severity of bushfires.¹ Changes to Australia's fire regimes present a dramatic increase in fire-related threats to human and natural values across the continent, a step change that was evident in the catastrophic 2019–20 'Black Summer' fire season. Australia's Black Summer bushfires were globally unprecedented in their size,

¹ *Royal Commission into National Natural Disaster Arrangements* (Final Report, 28 October 2020) 56 [2.10]–[2.11], 63–4 [2.51]–[2.57] ('*2020 Royal Commission Report*'). We use the term 'bushfire' to refer to uncontrolled fires — whether caused by 'natural' ignition such as spontaneous combustion or lightning strike, or human-caused ignition such as arson or an escaped hazard reduction burn — that burn trees, forests, grasslands, riparian vegetation and other vegetation types. While the terms 'bushfire' and 'fire' are used interchangeably here, the legal and policy arrangements associated with electrical, chemical and structural fires are beyond the scope of this article.

severity and impact.² The area burnt, the intrusion of fire into subtropical and tropical forests and the radiative power of the fires had not been seen before in the historical record.³

The law has an important role to play in building resilience to climate-heightened bushfire risk. That role is embedded in the full breadth of arrangements for fire, including institutional and regulatory tools for improving preparedness for, responses to, and recovery from changing fire regimes across sectors, scales and actors.

Australia's framework of laws and policies relating to bushfire spans national, state and territory, and local scales. Some relate explicitly to fire, such as criminal laws about arson and legislation establishing fire agencies. Other laws and policies are indirectly relevant, such as protected area management laws and the ability of the Commonwealth executive to declare a state of emergency under the *Constitution*.⁴ Laws with indirect application to bushfire are increasingly important in preparing for and responding to bushfire events, and in building or potentially undermining community resilience.

No existing scholarship defines the broad spectrum and operation of Australian laws and policies that can, together, be described as 'bushfire law'. Yet, having a bird's-eye view of the multitude of fire-related laws and policies in Australia is valuable, because post-fire reviews and inquiries consistently recommend reform but do not necessarily acknowledge broader, interacting legal instruments and obligations.⁵ Furthermore, while efforts are underway to develop a clear and pragmatic research agenda about bushfire,⁶ few researchers

² Matthias M Boer, Víctor Resco de Dios and Ross A Bradstock, 'Unprecedented Burn Area of Australian Mega Forest Fires' (2020) 10 (March) *Nature Climate Change* 171, 171–2; Nerilie J Abram et al, 'Connections of Climate Change and Variability to Large and Extreme Forest Fires in Southeast Australia' (2021) 2 *Communications Earth and Environment* 8:1–17, 1.

³ Abram et al (n 2) 1.

⁴ See *Australian Constitution* s 61.

⁵ See generally 2020 *Royal Commission Report* (n 1). The value of a bird's-eye view of law has been recognised and discussed in a wide variety of legal contexts: see, eg, Sabine Gless, 'Bird's-Eye View and Worm's-Eye View: Towards a Defendant-Based Approach in Transnational Criminal Law' (2015) 6(1) *Transnational Legal Theory* 117, 121–7; Jonathan Baron and Tess Wilkinson-Ryan, 'Conceptual Foundations: A Bird's-Eye View' in Joshua C Teitelbaum and Kathryn Zeiler (eds), *Research Handbook on Behavioral Law and Economics* (Edward Elgar Publishing, 2018) 19, 19. On resolving trade-offs between competing legal instruments and values, see generally Anita Foerster, Andrew Macintosh and Jan McDonald, 'Trade-Offs in Adaptation Planning: Protecting Public Interest Environmental Values' (2015) 27(3) *Journal of Environmental Law* 459 ('Trade-Offs in Adaptation Planning').

⁶ See 'Our Research Focus', *National Hazards Research Australia* (Web Page) <<https://www.naturalhazards.com.au/research/our-research-focus>>, archived at <<https://perma.cc/63MB-MMMV>>. Natural Hazards Research Australia incorporated the Bushfire and Natural Hazards

have dedicated specific attention to the broader roles of law in this area.⁷ We cannot effectively respond to bushfire law reform recommendations without a clear understanding of the legal instruments and institutions that already govern our relationship with fire. Moreover, as catastrophic bushfires become more common and destructive, a clear map of the existing legal framework offers a useful starting point for understanding the stunning complexity⁸ of Australia's bushfire laws and policies. The core task of this article is to fill this important gap in legal scholarship.

To map Australia's bushfire laws and policies across sectors, scales and jurisdictions, we have borrowed the concept of an 'anatomy' from the study of the human body. The science of anatomy is concerned with the bodily structure of living things, especially as revealed by dissection (the Greek term for 'anatomy' literally means 'to cut up').⁹ The term anatomy is also used in a more general sense to describe a study of the structure or internal workings of something. This concept provides a useful analytical lens because our goal is precisely that: to separate out the components of Australia's legal framework for fire so that we have a better understanding of its constituent parts.¹⁰ Knowing the anatomy of this legal framework will better equip us to understand its physiology or

Cooperative Research Centre: Natural Hazards Research Australia (Facebook, 24 August 2021, 3:30pm AEST) <<https://www.facebook.com/hazardsresearch/posts/132151915797420>>, archived at <<https://perma.cc/7M2R-H3WN>>.

⁷ Despite the absence of a cohesive legal research agenda, the Commonwealth Department of Home Affairs' *National Disaster Risk Reduction Framework* does note the need for a coordinated effort across areas including land use planning, emergency management, agriculture, education, energy and the environment to limit the impact of disasters: National Resilience Taskforce, Department of Home Affairs (Cth), *National Disaster Risk Reduction Framework* (Report, 2018) 4 ('*National Disaster Risk Reduction Framework*'). By contrast, the New South Wales Bushfire Risk Management Research Hub has six work packages, none of which relate specifically to law and policy: 'Work Packages', *NSW Bushfire Risk Management Research Hub* (Web Page) <<https://www.bushfirehub.org/work-packages/>>, archived at <<https://perma.cc/3ZKG-8P2T>>. Among notable exceptions is research conducted for the National Climate Change Adaptation Research Facility: see, eg, Andrew Macintosh, Anita Foerster and Jan McDonald, *Limp, Leap or Learn? Developing Legal Frameworks for Climate Change Adaptation Planning in Australia* (Final Project Report, 2013) ('*Limp, Leap or Learn?*'). Other notable exceptions have also been published in the United States ('US'): see, eg, Robert B Keiter, 'Wildfire Policy, Climate Change, and the Law' (2012) 1(1) *Texas Wesleyan Journal of Real Property Law* 87, 88.

⁸ A previous study undertook a limited review of the US legal framework for bushfire and described that framework as 'stunningly complex': Karen M Bradshaw, 'A Modern Overview of Wildfire Law' (2010) 21(3) *Fordham Environmental Law Review* 445, 451.

⁹ *Encyclopaedia Britannica* (online at 11 April 2022) 'anatomy' (def 1).

¹⁰ We do not claim that our use of the 'anatomy' metaphor is unique. In fact, a simple online search will reveal a host of academic articles analysing the 'anatomy' of different legal frameworks, including for comparative corporate law, tort law and in relation to private law theory, among others.

‘function’ — that is, how the different components of bushfire laws can work together to help prepare communities and environments for changing fire regimes.

The remainder of this article is structured in four parts. Part II provides an overview of the physical and climatic context for bushfires and the development of Australia’s bushfire laws. In Part III, we present for the first time an ‘anatomy’ of Australia’s legal framework for bushfire, using a novel conceptual model of its diverse, nested components. Part IV explains the significance of this analysis, including as a prerequisite to designing holistic law reform and understanding the limitations of law. In Part V, we conclude by acknowledging that bushfire is not a problem that law can ‘solve’, calling for greater attention to the role that law *can* play in tackling the challenges of a future that will be fundamentally shaped by our experience of fire.

II UNDERSTANDING THE CONTEXT FOR AUSTRALIA’S LEGAL FRAMEWORK FOR BUSHFIRE

The Black Summer was — in terms of area of land burnt — Australia’s largest fire season ever.¹¹ But it may not hold that title for long because fire seasons are becoming more extreme, particularly in Australia’s south-east, as the climate changes.¹² Australia’s legal framework for bushfire has evolved over more than a century and must continue to evolve. In this part, we briefly explain the physical and climatic backdrop to Australia’s changing fire regimes and the origins of Australian laws about bushfire as important context for the anatomical analysis of the legal framework that follows.

A Australia’s Bushfire Regimes Are Changing

Australia is ‘the most fire-prone continent on Earth.’¹³ When European settlers arrived in Australia, Indigenous nations had maintained fire regimes for tens of thousands of years and landscape-scale burning formed a central part of

¹¹ Lisa Richards and Nigel Brew, ‘2019–20 Australian Bushfires: Frequently Asked Questions’, *Parliament of Australia* (Web Page, 12 March 2020). See generally World Meteorological Organization, *State of the Global Climate 2020* (Report No 1264, 2021).

¹² See David Bowman et al, ‘Wildfires: Australia Needs a National Monitoring Agency’ (2020) 584(7820) *Nature* 188, 189.

¹³ Abram et al (n 2) 7. See also Jeremy Russell-Smith et al, ‘Bushfires “Down Under”: Patterns and Implications of Contemporary Australian Landscape Burning’ (2007) 16(4) *International Journal of Wildland Fire* 361, 361.

Indigenous culture and lore.¹⁴ Many of the landscapes that Europeans encountered had been shaped by fire, and many of Australia's ecosystems had adapted to survive and even flourish after bushfire. Colonisation abruptly changed these fire regimes, and likely contributed to the scale and extent of the destructive fires that have caused substantial economic and property damage and loss of life over the past 250 years.¹⁵ Catastrophic bushfires in Australia have also been influenced by a range of other variables such as natural climate variability, including periods of severe drought and heatwaves, and changing land use, particularly the (ongoing) expansion of human settlements into urban fringes that are both high in biodiversity and some of the most fire-prone places in Australia.¹⁶

There is now clear evidence that fire regimes are changing in response to climate change.¹⁷ Fire weather, fire activity and fire impacts have increased over recent decades in response to changes in mean climate conditions and the increasing frequency of extreme weather events such as drought and heatwaves.¹⁸ On average, Australia's climate has warmed by $1.44 \pm 0.24^\circ\text{C}$ since 1910, and there has been a shift towards drier conditions across southern Australia since

¹⁴ Michael-Shawn Fletcher et al, 'Catastrophic Bushfires, Indigenous Fire Knowledge and Re-framing Science in Southeast Australia' (2021) 4(3) *Fire* 61:1–11, 4–5. See also Noeleen McNamara, 'Australian Aboriginal Land Management: Constraints or Opportunities?' (2014) 21 *James Cook University Law Review* 25, 25–34, though specific cultural significance and use of fire differs across Indigenous groups and regions.

¹⁵ See, eg, GW Morgan et al, 'Prescribed Burning in South-Eastern Australia: History and Future Directions' (2020) 83(1) *Australian Forestry* 4, 7–8. For discussion of the dramatic increase in frequency of intense forest fires in south-west Western Australia following European colonisation, see ND Burrows, B Ward and AD Robinson, 'Jarrah Forest Fire History from Stem Analysis and Anthropological Evidence' (1995) 58(1) *Australian Forestry* 7, 7, 12. See generally Stephen J Pyne, *The Pyrocene: How We Created an Age of Fire, and What Happens Next* (University of California Press, 2021).

¹⁶ Neal J Enright and Joseph B Fontaine, 'Climate Change and the Management of Fire-Prone Vegetation in Southwest and Southeast Australia' (2014) 52(1) *Geographical Research* 34, 34–5; A Malcolm Gill, 'Bushfires and Biodiversity in Southern Australian Forests' in Ross A Bradstock, A Malcolm Gill and Richard J Williams (eds), *Flammable Australia: Fire Regimes, Biodiversity and Ecosystems in a Changing World* (CSIRO Publishing, 2012) 235, 235–6, 245. Approximately 85% of the population lives in urban and peri-urban centres along Australia's coastline: Barbara Norman, Peter Newman and Will Steffen, 'Apocalypse Now: Australian Bushfires and the Future of Urban Settlements' [2021] *npj Urban Sustainability* 2:1–9, 1.

¹⁷ RMB Harris et al, 'Biological Responses to the Press and Pulse of Climate Trends and Extreme Events' (2018) 8(7) *Nature Climate Change* 579, 579, 583–4; Abram et al (n 2) 7. See generally Geert Jan van Oldenborgh et al, 'Attribution of the Australian Bushfire Risk to Anthropogenic Climate Change' (2021) 21(3) *Natural Hazards and Earth System Sciences* 941.

¹⁸ Josep G Canadell et al, 'Multi-Decadal Increase of Forest Burned Area in Australia Is Linked to Climate Change' (2021) 12 *Nature Communications* 6921:1–11, 1, 5, 8.

the late 1990s.¹⁹ As a result, since the 1950s, dangerous fire weather has increased and fire seasons have lengthened, particularly in the south.²⁰

Since the 1980s, against the backdrop of these warming and drying trends, the number of years between fires has decreased while the area burnt annually across Australia has increased.²¹ There has also been a substantial increase in the frequency of forest mega-fires (fires that burn more than 1 million hectares) since 2000.²² Recent studies demonstrate the extent to which climate change is contributing to these bushfire events. For example, Tasmania's 'Angry Summer' fires in 2012–13 were found to have been linked to the extreme summer heat, which was made five times more likely due to human influence on the climate.²³ The heat extremes associated with the 2019–20 bushfire season in south-eastern Australia were shown to be at least two times more likely under anthropogenic warming and the Fire Weather Index was at least 30% higher than under natural forcings.²⁴

The Black Summer fires had significant social, environmental and economic impacts.²⁵ Thirty-three lives were lost, and more than 3,000 houses destroyed by the fires,²⁶ while an estimated 417 deaths and 3,151 hospital admissions were attributed to smoke exposure.²⁷ Ongoing post-traumatic stress disorder and depression are expected to have long-term effects on fire-affected communities.²⁸ Impacts on water quality, soil conservation and threatened fauna and flora have also been widespread. For example, more than 23% of temperate forests in south-eastern Australia were burnt and, in New South Wales ('NSW') alone, more than 290 threatened fauna, 680 threatened flora species and 37% of the State's national park estate are thought to have been destroyed, injured or

¹⁹ CSIRO and Bureau of Meteorology (Cth), *State of the Climate 2020* (Report, 2020) 2.

²⁰ Abram et al (n 2) 7–8.

²¹ Canadell et al (n 18) 8.

²² Ibid.

²³ Sophie C Lewis and David J Karoly, 'Anthropogenic Contributions to Australia's Record Summer Temperatures of 2013' (2013) 40(14) *Geophysical Research Letters* 3705, 3709.

²⁴ van Oldenborgh et al (n 17) 956.

²⁵ Alexander I Filkov et al, 'Impact of Australia's Catastrophic 2019–20 Bushfire Season on Communities and Environment: Retrospective Analysis and Current Trends' (2020) 1(1) *Journal of Safety Science and Resilience* 44, 55.

²⁶ Ibid 54.

²⁷ Nicolas Borchers Arriagada et al, 'Unprecedented Smoke-Related Health Burden Associated with the 2019–20 Bushfires in Eastern Australia' (2020) 213(6) *Medical Journal of Australia* 282, 283. See also Fay H Johnston et al, 'Unprecedented Health Costs of Smoke-Related PM_{2.5} from the 2019–20 Australian Megafires' (2021) 4(1) *Nature Sustainability* 42, 42.

²⁸ Richard A Bryant et al, 'Psychological Outcomes following the Victorian Black Saturday Bushfires' (2014) 48(7) *Australian and New Zealand Journal of Psychiatry* 634, 639–40.

otherwise impacted by the fires, including 54% of the Gondwana Rainforests in the World Heritage Area.²⁹

We can expect more seasons like this in the future. Extreme weather events such as heatwaves and droughts are projected to become more widespread, frequent and intense,³⁰ leading to more dangerous fire weather conditions. Opportunities for controlled hazard reduction burning are also decreasing, with fire seasons extending back into spring and later into autumn, reducing the periods in which it is both dry and cool enough to burn.³¹

B Australian Laws for Bushfire Have a Long History

The focus of early legislative interventions about bushfire emphasised fire prevention and extinguishment. The first legal instrument, introduced in Western Australia in September 1847, was the *Bush Fires Ordinance 1847 (WA)* ('*Bush Fires Ordinance*').³² The *Bush Fires Ordinance* prohibited burning '[g]rass, [s]tubble, shrub, or other natural vegetation whatsoever' at certain times of year 'to prevent the evils which result from what are commonly called "[b]ush [f]ires"', and authorised floggings for 'boy[s] under the age of sixteen years' and Indigenous people in lieu of fines.³³ Over the next decade, Tasmania, South Australia and Victoria followed suit, creating statutory offences for lighting fires

²⁹ Department of Planning, Industry and Environment (NSW), *NSW Fire and the Environment 2019–20 Summary: Biodiversity and Landscape Data and Analyses To Understand the Effects of the Fire Events* (Report, March 2020) 5, 12. See generally Michelle Ward et al, 'Impact of 2019–2020 Mega-Fires on Australian Fauna Habitat' (2020) 4(10) *Nature Ecology and Evolution* 1321. Many animals, plants and ecosystems were killed or destroyed by the fires while others struggled to survive in burnt landscapes with limited access to shelter and food: at 1321.

³⁰ Sonia I Seneviratne et al, 'Changes in Climate Extremes and Their Impacts on the Natural Physical Environment' in Christopher B Field et al (eds), *Managing the Risks of Extreme Events and Disasters To Advance Climate Change Adaptation: Special Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2012) 109, 202.

³¹ See, eg, Climate Council, *Be Prepared: Climate Change and the Australian Bushfire Threat* (Report, 2013) 28. See generally Hamish Clarke et al, 'Climate Change Effects on the Frequency, Seasonality and Interannual Variability of Suitable Prescribed Burning Weather Conditions in South-Eastern Australia' (2019) 271 *Agricultural and Forest Meteorology* 148.

³² 10 Vict, No 15 ('*Bush Fires Ordinance*'). See also NP Cheney, 'Bushfires: An Integral Part of Australia's Environment' in Australian Bureau of Statistics, *Year Book Australia, 1995* (Catalogue No 1301.0, 1 January 1995) 515, 518.

³³ *Bush Fires Ordinance* (n 32) ss 1, 4. See also Burrows, Ward and Robinson (n 15) 10. See generally Lesley Head, 'Landscapes Socialised by Fire: Post-Contact Changes in Aboriginal Fire Use in Northern Australia, and Implications for Prehistory' (1994) 29(3) *Archaeology in Oceania* 172.

at certain times of year and obliging landholders to actively extinguish fires on private property.³⁴

Other important early rules were contained in general policing and land management statutes, which created penalties for causing damage, including by fire.³⁵ Statutes also modified landowners' exposure to liability in negligence for escaped fires if, for example, they maintained firebreaks along fence lines.³⁶ Despite evidence of firebreaks being implemented in publicly managed timber reserves in NSW as early as 1891,³⁷ statutes did not vest specific bushfire-related powers in public agencies until after Federation. For example, the *Local Government Act 1906* (NSW) empowered councils to provide for the 'prevention or mitigation of bush fires' (including through the organisation of bushfire brigades),³⁸ and the *Forests Act 1915* (Vic) empowered the Victorian Board of Works and Forests Commission respectively to prevent, suppress and control fire on public land.³⁹

Many royal commissions and inquiries following natural disasters in Australia have informed the development of legal and institutional arrangements

³⁴ *Bush Fires Act 1854* (SA) 18 Vict, No 14, ss 1, 5 ('*Bush Fires Act 1854* (SA)'); *Bush Fires Act 1854* (Tas) 18 Vict, No 10, ss 1–2; *An Act To Restrain the Careless Use of Fire 1854* (Vic) 18 Vict, No 8, s 1.

³⁵ See, eg, regulations which could be made under the *Forestry Act 1909* (NSW) s 29(1)(k), which could prescribe 'the conditions under which fires may or may not be lighted or used in State forests'. The *Crimes Act 1957* (Vic) ss 196–203 and *Police Offences Act 1890* (Vic) 54 Vict, No 1126, s 22 included penalties for damaging property, including by fire.

³⁶ See, eg, *Careless Use of Fire Act 1901* (NSW) s 5(1) and, later, *Careless Use of Fire Act 1912* (NSW) s 5. See also *Bush Fires Act 1854* (SA) (n 34) s 2, which imposes a '[p]enalty for neglecting precautions'.

³⁷ TC Grant, *History of Forestry in New South Wales 1788 to 1988* (Forestry Commission of NSW, 1989) 195. However, firebreaks were only extensively established in state forests later under the *Forestry Act 1916* (NSW).

³⁸ *Local Government Act 1906* (NSW) s 73(iv)(a). Under the *Local Government Act 1919* (NSW) s 495, councils could require landowners and occupiers to create a firebreak on land where living or dead vegetation occurred within 100 feet of buildings, crops or orchards. Prior to the *Bush Fires Act 1949* (NSW), NSW essentially had three parallel approaches to bushfire management: councils and brigades under the *Local Government Act 1919* (NSW) ss 494–5; individual responsibility for controlling fires and creating firebreaks on private land under the *Careless Use of Fire Act 1912* (NSW) s 5; and responsibility for fire and firebreaks in the forest estate under the *Forestry Act 1916* (NSW) s 11(1)(i).

³⁹ *Forests Act 1915* (Vic) ss 34–5. Similarly, the *Forestry Act 1916* (NSW) created the New South Wales Forestry Commission and its regulatory power to protect state forests and timber reserves from potential fire damage: ss 5(1), 41(1). These powers in Victoria were allocated exclusively to the Forests Commission in 1939 to remedy regulatory overlap and confusion about agency responsibilities for fire: *Forests Act 1939* (Vic) s 4. See also 'Black Friday 1939', *Forest Fire Management Victoria* (Web Page, 2 July 2021) <<https://www.ffm.vic.gov.au/history-and-incidents/black-friday-1939>>, archived at <<https://perma.cc/XE48-39SL>>.

for bushfire in profound ways.⁴⁰ For example, recommendations from Leonard Stretton's highly influential 1939 Royal Commission after the devastating 'Black Friday' bushfires in Victoria resulted in the establishment of local and rural fire brigades in many Australian jurisdictions.⁴¹ That report also recommended establishing fire trails to facilitate access for firefighting, fire towers for early fire detection, and 'preventative' controlled burning to reduce fuel loads.⁴² The 2009 Victorian Bushfires Royal Commission's ('Victorian Royal Commission') recommendations also influenced bushfire law reform nationwide. For example, the Victorian Royal Commission's recommendations informed a national rollout of comprehensive bushfire hazard mapping and Bushfire Management Overlays in land use planning,⁴³ and stricter minimum bushfire construction standards, including ember protection measures.⁴⁴

⁴⁰ Josh Whittaker and David Mercer, 'The Victorian Bushfires of 2002–03 and the Politics of Blame: A Discourse Analysis' (2004) 35(3) *Australian Geographer* 259, 260, 263. See generally PJ Kanowski, RJ Whelan and S Ellis, 'Inquiries following the 2002–2003 Australian Bushfires: Common Themes and Future Directions for Australian Bushfire Mitigation and Management' (2005) 68(2) *Australian Forestry* 76.

⁴¹ *Royal Commission To Inquire into the Causes of and Measures Taken To Prevent the Bush Fires of January, 1939, and To Protect Life and Property and the Measures To Be Taken To Prevent Bush Fires in Victoria and To Protect Life and Property in the Event of Future Bush Fires* (Final Report, January 1939) 20–1 ('*Stretton Report*'). The *Fire Brigades Act 1928* (Vic) had introduced the first formal arrangements for regional firefighting brigades in some parts of Victoria: ss 4–5; but those arrangements were updated substantially to implement the recommendations of the *Stretton Report* (n 41), including by introducing a statewide fire service: *Country Fire Authority Act 1944* (Vic) s 5; *Stretton Report* (n 41) 20–1. See also *Bush Fires Act 1949* (NSW) s 19; *Bush Fires Act 1935* (Tas) ss 9–10; *Fire Brigades Act 1942* (WA) s 26. In comparison, in South Australia a formalised, statutory firefighting authority did not emerge until the *Country Fires Act 1976* (SA) s 23: 'History of the CFS', *South Australian Country Fire Service* (Web Page, 29 June 2017) <<https://www.cfs.sa.gov.au/about-cfs/history-of-the-cfs/>>, archived at <<https://perma.cc/6WV3-K6ER>>.

⁴² *Stretton Report* (n 41) 30–1; Peter Hannam, 'Lessons Learnt (and Perhaps Forgotten) from Australia's Worst Fires', *Sydney Morning Herald* (online, 11 January 2019) <<https://www.smh.com.au/environment/climate-change/lessons-learnt-and-perhaps-forgotten-from-australia-s-worst-fires-20190108-p50qol.html>>, archived at <<https://perma.cc/HY5Z-TAJZ>>. See generally Joëlle Gergis, *Sunburnt Country: The History and Future of Climate Change in Australia* (Melbourne University Press, 2018).

⁴³ The Bushfire Management Overlays replaced the Victorian Wildfire Management Overlay, which had only applied to 'areas of forest greater than 5ha with a vegetation density greater than 80%': 'Why Have Bushfire Rules?', *Department of Environment, Land, Water and Planning* (Vic) (Web Page, 25 January 2022) <https://www.planning.vic.gov.au/policy-and-strategy/bushfire/why-have-planning-and-building-rules#open_drawer>, archived at <<https://perma.cc/939J-T6DW>>.

⁴⁴ *Ibid.* Bushfire Management Overlays and construction standards now also integrate more nuanced data through fire hazard mapping that considers the impact of elements such as slope, weather and vegetation type on fire risk.

We do not propose to analyse all of the recommendations from the 57 or more formal inquiries and reviews specifically focusing on bushfire from 1939 to 2020.⁴⁵ Indeed, not all recommendations by these inquiries have been implemented,⁴⁶ and there remain important shortfalls in monitoring implementation and effectiveness over time.⁴⁷ Nevertheless, the changing nature of bushfire regimes and our growing exposure to catastrophic fires demonstrate the importance of gaining a clear understanding of Australia's legal frameworks, particularly if these laws are to continue to evolve and adapt to the bushfire regimes of the future.

III DISSECTING THE ANATOMY OF BUSHFIRE LAW

At present, there is no holistic concept of bushfire law that encompasses all of the different legal principles and mechanisms relevant to fire in the way that, for example, there are cohesive areas of law that can be described as 'tax law' or 'climate change law'.⁴⁸ A large proportion of Australian literature about law and bushfire relates to emergency management, but the legal framework for fire is much broader than that. In fact, almost all areas of law relate in some way to bushfire. Laws about fire include criminal laws, such as for arson, and civil laws, such as for fire insurance. Bushfires engage both private and public laws, for example, by obliging private property owners to mitigate fire hazards, by governing the impacts of smoke on public health, and by managing the risks of fire to workers under work health and safety ('WH&S') laws. Laws about bushfire also cross landscapes, sectors and industries including under natural resource

⁴⁵ 'Inquiries and Reviews Database', *Bushfire & Natural Hazards CRC* (Web Page) <<https://tools.bnhcrc.com.au/ddr/inquiries>>, archived at <<https://perma.cc/637Y-NUEN>>.

⁴⁶ State government inquiries completed since the Black Summer appear to have been implemented in a more comprehensive way: see, eg, 'NSW Bushfire Inquiry Progress Reports', *NSW Government* (Web Page) <<https://www.nsw.gov.au/nsw-government/projects-and-initiatives/nsw-bushfire-inquiry/nsw-bushfire-inquiry-progress-reports>>, archived at <<https://perma.cc/4PXD-QGPH>>. The Government of South Australia has confirmed that all short-term actions recommended in its 2020 inquiry are now complete: 'Actions To Be Completed for the Next Bushfire Season', *South Australian Fire and Emergency Services Commission* (Web Page, 1 June 2021) <<https://www.safecom.sa.gov.au/independent-review-sa-201920-bushfires/actions-to-be-completed-for-the-next-bushfire-season/>>, archived at <<https://perma.cc/GDU2-VMQ9>>. But see Climate Council, 'One Year On: Royal Commission Recommendations Left Burning' (Media Release, 28 October 2021) <<https://www.climatecouncil.org.au/resources/one-year-on-royal-commission-recommendations-left-burning/>>, archived at <<https://perma.cc/J2CT-59ZK>>.

⁴⁷ See Government of South Australia, *Independent Review into South Australia's 2019–20 Bushfire Season* (Report, June 2020) v–vi.

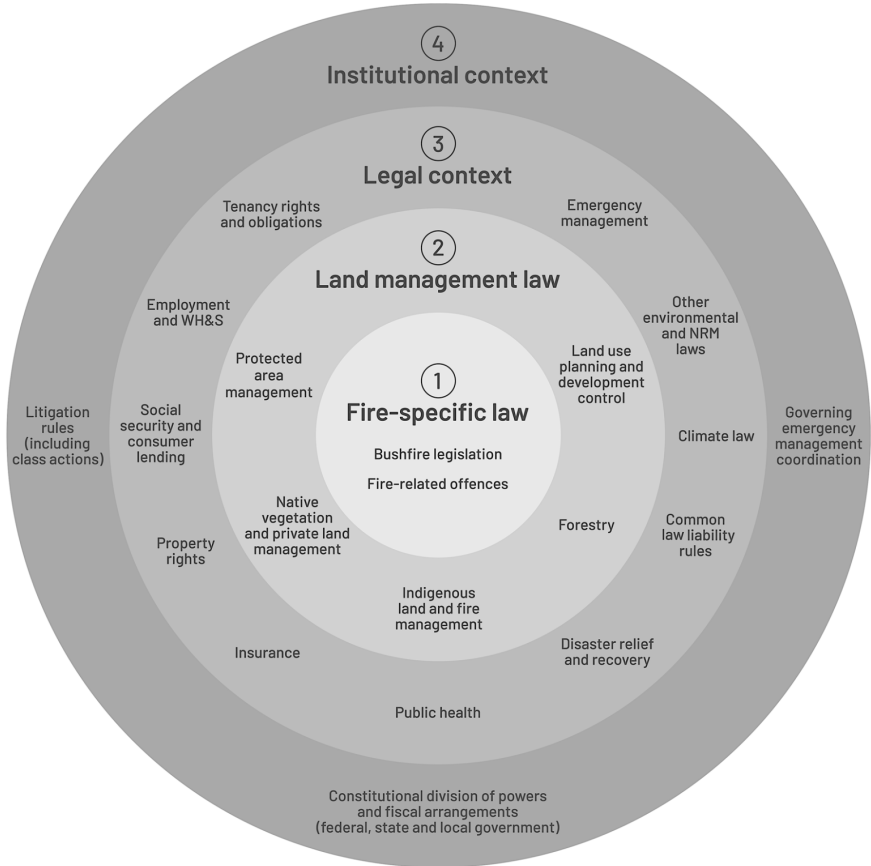
⁴⁸ See, eg, Jacqueline Peel, 'Climate Change Law: The Emergence of a New Legal Discipline' (2008) 32(3) *Melbourne University Law Review* 922, 924.

management ('NRM') laws, which include obligations and permitting processes for fire mitigation and management in forestry coupes and water catchments. The sources of law about bushfire include the full spectrum; from the common law, Commonwealth, state and territory statutes, subsidiary legislation including instruments administered by local government, and the *Constitution*. International laws also have a role to play, including in relation to Australia's climate targets and carbon accounting mechanisms, and for managing fire in internationally significant places such as Ramsar wetlands.⁴⁹

Figure 1 provides a conceptual model of the diversity of legal instruments, procedural rules and institutional arrangements that make up the anatomy of the legal framework for bushfire in Australia. The four concentric rings in Figure 1 demonstrate the nested nature of this framework. Figure 1 will also likely resonate beyond Australia, as it is organised according to the nature or characteristics of different kinds of law, rather than by a list of specific statutes, regulations or policies.

⁴⁹ Phillipa C McCormack, 'Climate Change, Wildfires and Wetland Ecosystem Services: Governing Transformation' (2020) 39(3) *University of Queensland Law Journal* 417, 427–31 ('Climate Change, Wildfires and Wetland Ecosystem Services'). See generally *Convention on Wetlands of International Importance Especially as Waterfowl Habitat*, signed 2 February 1971, 996 UNTS 245 (entered into force 21 December 1975).

Figure 1: Conceptual Model of Australia’s Legal Framework for Bushfire



At the heart of Figure 1, in Ring 1, are laws that are most clearly and directly related to bushfire, including the establishment of fire agencies, controls on lighting fires, fire prevention obligations and fire-specific offences such as arson. Land management laws set out in Ring 2 have explicit application to bushfire — including in mitigating fire hazards, responding to fire in protected areas, and facilitating bushfire recovery — but also operate beyond the context of fire to support broader land management goals. Rings 3 and 4 illustrate the complex and varied range of legal and institutional contexts that influence fire preparation, response and recovery in human communities with a particular influence on social aspects of vulnerability and resilience in the face of changing fire regimes. The outer ring demonstrates the significance of formal allocations of executive power and resourcing for bushfire, across all tiers of government, and

formal rules that govern both access to the courts and the conduct of bushfire litigation.

While Figure 1 implies that there are clear boundaries between each Ring and category of law, in reality they overlap and the boundaries between the rings may be permeable. For example, the management of air quality is a matter for both public health and environmental law (separate categories listed in Ring 3). In fact, some legal instruments deployed as the basis for public health measures may concomitantly be described as environmental law instruments.⁵⁰ Similarly, protected area laws in Ring 2 are important land management laws that explicitly provide for bushfire preparation, response and recovery. However, protected area laws are widely understood to be a subcategory of conservation laws, which are themselves a subcategory of environmental law (Ring 3). While the nuances of how we have allocated each legal category in Figure 1 can be debated, we argue that this conceptual model nevertheless makes a valuable contribution to the literature about bushfire and law, demonstrating the breadth and diversity of legal instruments that operate in relation to fire.⁵¹ In the remainder of Part III, we briefly introduce each category of law listed in Figure 1 and highlight its position and role in the anatomy of Australia's legal framework for bushfire.

A Fire-Specific Laws (Ring 1)

The first ring, at the centre of Figure 1, is dedicated to those laws that are directly and explicitly concerned with bushfire. Perhaps the most easily-recognised laws in this category are the statutes in every state and territory that establish fire agencies and brigades, and their core functions and responsibilities.⁵² Fire-specific laws empower fire agencies or officials to declare restricted burning periods and total fire ban days,⁵³ and to declare fire protection or

⁵⁰ See, eg, *National Environment Protection Council Act 1994* (Cth) s 3, and the subsidiary *National Environment Protection (Ambient Air Quality) Measure 1998* (Cth) s 5.

⁵¹ In drawing distinctions between these areas of law and allocating them to the various rings of Figure 1, the authors have drawn on their broad and deep expertise in legal practice, legal academia, human geography and climate and fire sciences.

⁵² See, eg, *Rural Fires Act 1997* (NSW) ss 8–9; *Fire and Emergency Services Act 2005* (SA) ss 24–6, 57–9; *Country Fire Authority Act 1958* (Vic) ss 2, 6; *Fire and Emergency Services Act 1998* (WA) pt 3A.

⁵³ Under most regimes, existing fire permits are automatically suspended for the period of a 'total fire ban' day declaration, and statutes create heavy penalties for breach: see, eg, *Emergencies Act 2004* (ACT) ss 114–16; *Rural Fires Act 1997* (NSW) s 99; *Bushfires Management Act 2016* (NT) ss 65–6, 86–8; *Fire and Emergency Services Act 1990* (Qld) ss 87–92; *Fire and Emergency Services Act 2005* (SA) s 80; *Fire Service Act 1979* (Tas) s 70; *Country Fire Authority Act 1958* (Vic) s 40; *Bush Fires Act 1954* (WA) ss 17, 22A–22B.

management zones that will be subject to particular management obligations, including to reduce fire hazards.⁵⁴ Fire-specific legislation also regulates whether and when permits may be required to light a fire,⁵⁵ and may create exemptions from certain permitting obligations. For example, a person may be exempt from needing a smoke pollution permit for smoke produced by a controlled burn that is conducted under a valid permit.⁵⁶

State and territory statutes also impose legal duties on public and private landowners and occupiers to prevent fires; remove, minimise or mitigate sources of ignition or fire hazards; and manage or extinguish fires on their land.⁵⁷ In some circumstances, fire agencies and/or local councils may issue a notice to remove a fire hazard and, if a landowner fails to comply, the agency or council may enter the property and remove the hazard at the landowner's expense.⁵⁸ Fire-specific laws may also facilitate, or even mandate, activities such as prescribed burning to reduce bushfire risks.⁵⁹ Some jurisdictions and fire agencies have developed guidance for landowners and managers, helping them to balance overlapping legal priorities before they act to remove a fire hazard, either by mechanical clearing or by conducting a prescribed burn. For example, proposed hazard reduction activities in NSW are assessed against the *Bush Fire Environmental Assessment Code 2021* (NSW) ('*Bush Fire Code*') and certified

⁵⁴ *Bushfires Management Act 2016* (NT) pt 3; *Fire and Emergency Services Act 2005* (SA) ss 4A, 105G–105H; *Fire and Emergency Services Act 1998* (WA) s 18P.

⁵⁵ See, eg, *Rural Fires Act 1997* (NSW) ss 86, 89, establishing 'bush fire hazard reduction certificates' and fire permits; *Bushfires Management Act 2016* (NT) s 46; *Fire and Emergency Services Act 2005* (SA) s 81.

⁵⁶ See, eg, *Fire Service Act 1979* (Tas) s 66(12), providing that '[a] person who lights and controls a fire in accordance with the conditions of a [valid] permit granted' under that section is exempt from the provisions of the *Environmental Management and Pollution Control Act 1994* (Tas); *Rural Fires Act 1997* (NSW) s 95, providing that permits are not required for fires lit by public authorities.

⁵⁷ *Rural Fires Act 1997* (NSW) s 63; *Bushfires Management Act 2016* (NT) ss 90–1; *Fire and Emergency Services Act 2005* (SA) ss 105F–105I; *Bush Fires Act 1954* (WA) ss 32–3. Related duties and offences can also be found in criminal laws: see below nn 64–7 and accompanying text. See generally Jan McDonald and Phillipa C McCormack, 'Responsibility and Risk-Sharing in Climate Adaptation: A Case Study of Bushfire Risk in Australia' (2022) 12(2) *Climate Law* 128.

⁵⁸ Enforceable hazard reduction notices can be issued under fire legislation in some jurisdictions: see, eg, *Rural Fires Act 1997* (NSW) ss 66, 70, pt 4 div 2A ('[b]ush fire hazard complaints'); *Bushfires Management Act 2016* (NT) s 69; or as part of a more general nuisance 'abatement' power in others: see, eg, *Local Government Act 1993* (Tas) pt 12 div 6, s 199(d). See generally Northern Territory Government, *Gamba Fire Mitigation: Compliance Policy* (Policy, June 2021) ('*Gamba Fire Mitigation Policy*'). This was implemented under the *Weeds Management Act 2001* (NT) and *Bushfires Management Act 2016* (NT).

⁵⁹ See, eg, *Rural Fires Act 1997* (NSW) pt 4 div 2; *Fire and Emergency Services Act 2005* (SA) pt 4A div 3; *Bush Fires Act 1954* (WA) pt III div 6.

by the Rural Fire Service or relevant certifying authority.⁶⁰ The *Bush Fire Code* creates a 'one-stop shop'⁶¹ certification process for bushfire hazard reduction activities, applying standards to protect against soil erosion, weed incursion and impacts on threatened species,⁶² while bypassing the full range of environmental assessment and approval processes that would otherwise apply.⁶³ While this aspect of hazard reduction, and particularly prescribed burning, is facilitated through fire-specific legislation (for example, laws firmly located in Ring 1), hazard reduction activities may also trigger obligations under a range of land management laws listed in Ring 2, including land use planning and native vegetation laws, and duties and processes for forestry and protected area management.

Laws in Ring 1 also include fire-specific offences, which may be contained in bushfire legislation or in state and territory criminal codes. These offences include arson,⁶⁴ causing a bushfire⁶⁵ or lighting a fire that is likely to injure another person,⁶⁶ and failing to take reasonable care to avoid a fire destroying or causing damage to property.⁶⁷ Each jurisdiction uses slightly different terminology but, to establish these offences, a prosecutor will typically need to demonstrate that an alleged perpetrator: (i) had the required mental element, such as an intention to cause injury or damage to life or property or recklessness as to that result; (ii) acted or omitted to act, for example, by lighting a grass fire or failing to extinguish a camp fire, knowing or believing that that act or omission was likely to cause injury or damage; and (iii) that the act or omission was

⁶⁰ *Bush Fire Environmental Assessment Code 2021* (NSW) r 1.9.

⁶¹ *Ibid* rr 5.3, 5.7, 5.12.

⁶² *Ibid* rr 1.4, 5.3, 5.7, 5.12.

⁶³ See, eg, *ibid* r 5.3.3.2. Certifying authorities may proceed with an assessment, even where conditions on the NSW Rural Fire Service, *Threatened Species Hazard Reduction List* (List, 25 September 2013) would prevent the works.

⁶⁴ See, eg, *Crimes Act 1900* (ACT) s 117; *Crimes Act 1900* (NSW) ss 196–202; *Criminal Code Act 1899* (Qld) s 461; *Criminal Law Consolidation Act 1935* (SA) s 85(1); *Criminal Code Act 1924* (Tas) s 268; *Crimes Act 1958* (Vic) ss 197–197A (and the related offence of '[i]ntentionally or recklessly causing a bushfire' contained in s 201A); *Criminal Code Act Compilation Act 1913* (WA) ss 444–5.

⁶⁵ See, eg, *Criminal Law Consolidation Act 1935* (SA) s 85B; *Criminal Code Act Compilation Act 1913* (WA) s 444A.

⁶⁶ See, eg, *Bush Fires Act 1954* (WA) s 32.

⁶⁷ See, eg, *Criminal Law Consolidation Act 1935* (SA) s 85(1)(b); *Criminal Code Act Compilation Act 1913* (WA) ss 444A(1)–(2).

the cause of the relevant damage, that is, that the fire that the alleged perpetrator lit caused the relevant death, injury or property damage.⁶⁸

Fire-related criminal offences are notoriously difficult to detect and prosecute because so many fires start in secluded places and crucial evidence is often destroyed by the fire itself.⁶⁹ Even so, researchers have estimated that arson could be responsible for up to half of Australia's bushfires.⁷⁰ A crucial role for fire-specific laws in future will be to reduce the incidence of these deliberately lit and accidentally escaped fires (ie those for which there is a possibility of intervention)⁷¹ and thereby reduce the need to divert already-stretched fire-fighting resources from unavoidable fires, such as those caused by lightning.

Many Australian jurisdictions are in the process of reviewing and/or introducing new fire-specific legislation. For example, the Tasmanian Government released a draft Bushfire Mitigation Measures Bill in late 2020,⁷² and the NSW Government revised a range of bushfire-specific laws after its review of the 2019–20 fire season.⁷³ While post-fire reviews and inquiries continue to propose reforms to fire-specific laws, it seems unlikely that new *categories* of law will be introduced to this central ring.

⁶⁸ See, eg, *Crimes Act 1900* (ACT) s 117; *Crimes Act 1900* (NSW) ss 196–202; *Criminal Code Act 1899* (Qld) s 461(1); *Criminal Law Consolidation Act 1935* (SA) s 85; *Criminal Code Act 1924* (Tas) ss 13(1), 268; *Crimes Act 1958* (Vic) ss 197, 201A(1); *Criminal Code Act Compilation Act 1913* (WA) s 444(1).

⁶⁹ Monash Sustainability Institute, *Advancing Bushfire Arson Prevention in Australia*, ed Janet Stanley and Tahl Kestin (MSI Report No 10/3, June 2010) 21, 37.

⁷⁰ *Ibid* 5.

⁷¹ Gaye T Lansdell, John Anderson and Michael S King, "'Terror among the Gum Trees': Is Our Criminal Legal Framework Adequate To Curb the Peril of Bushfire Arson in Australia?" (2011) 18(3) *Psychiatry, Psychology and Law* 357, 364–8.

⁷² Bushfire Mitigation Measures Draft Bill 2020 (Tas). The Bill sought to introduce a relatively undefined duty to reduce fire risks on private land and faced opposition from a wide range of stakeholders: cl 6. The Tasmanian Government has since referred the issue of bushfire risk mitigation to the Tasmanian Fire Service to be included in its long-running review of the *Fire Service Act 1979* (Tas): see McDonald and McCormack (n 57) 146–8, 158.

⁷³ See, eg, *Final Report of the NSW Bushfire Inquiry* (Report, 31 July 2020) ('NSW Bushfire Inquiry Final Report'); NSW Government, *NSW Bushfire Inquiry 2020: Implementation of the NSW Government's Response to the NSW Bushfire Inquiry, January to March 2021* (Progress Report, March 2021) 3 ('NSW Bushfire Inquiry: March Progress Report'). See other progress reports on reforms to the *Rural Fires Act 1997* (NSW): NSW Government, *NSW Bushfire Inquiry 2020: Implementation of the NSW Government's Response to the NSW Bushfire Inquiry, April to June 2021* (Progress Report, June 2021) 22–4; NSW Government, *NSW Bushfire Inquiry 2020: Implementation of the NSW Government's Response to the NSW Bushfire Inquiry, July to September 2021* (Progress Report, September 2021) 48.

B Land Management Laws (Ring 2)

The second ring in Figure 1 identifies laws and policies for managing private and public land. While these laws also operate outside the context of bushfire, they are directly implicated in bushfire preparation activities such as vegetation clearing and burning for bushfire hazard reduction and, to a lesser extent, in fire response and recovery activities such as post-fire environmental rehabilitation.

1 Land Use Planning and Building Controls

The most important land management laws in Ring 2 are land use planning controls, which are implemented across Australia under state planning legislation and policies and in local land use planning schemes.⁷⁴ Land use planning controls govern how and where developments are located, including in response to changes in fire risk;⁷⁵ give practical effect to bushfire risk mapping, urban design and construction standards;⁷⁶ and in some cases, require that proposals are referred to relevant fire authorities for assessment.⁷⁷

Legal instruments such as tree preservation orders, Aboriginal cultural heritage protections,⁷⁸ and planning scheme codes and overlays that protect native vegetation, heritage and biodiversity may *limit* or *prohibit* fire hazard reduction.⁷⁹ Planning controls may also *facilitate* bushfire hazard reduction, including on private land. Facilitative tools include obligations to incorporate 'defendable space' into development permit applications for new dwellings, and mechanisms for encouraging landowners to maintain defendable spaces around

⁷⁴ These are established by statute and implemented through statewide planning schemes supplemented by local government area-specific provisions. See below n 84 for examples of policies and codes.

⁷⁵ Lucy Groenhart, Alan March and Mark Holland, 'Shifting Victoria's Emphasis in Land-Use Planning for Bushfire: Towards a Place-Based Approach' (2012) 27(4) *Australian Journal of Emergency Management* 33, 33.

⁷⁶ *Ibid* 33, 36.

⁷⁷ Mark Holland et al, 'Land Use Planning and Bushfire Risk: CFA Referrals and the February 2009 Victorian Fire Area' (2013) 31(1) *Urban Policy and Research* 41, 43–5; Macintosh, Foerster and McDonald, *Limp, Leap or Learn?* (n 7) 128–30. See generally Constanza Gonzalez-Mathiesen and Alan March, 'Nine Design Features for Bushfire Risk Reduction via Urban Planning' (2014) 29(3) *Australian Journal of Emergency Management* 29.

⁷⁸ Implemented through land use planning: see, eg, *Aboriginal Heritage Regulations 2018* (Vic) reg 7, which requires an approved cultural heritage management plan for certain hazard reduction activities in areas of 'cultural heritage sensitivity'.

⁷⁹ For instance, in NSW, protections made under planning instruments such as state planning policies and local planning schemes 'cannot prohibit, require development consent for or otherwise restrict' bushfire hazard reduction work: *Rural Fires Act 1997* (NSW) s 100C(1).

existing homes and infrastructure.⁸⁰ Planning tools that facilitate bushfire hazard reduction also include exemptions from permit rules for some forms of vegetation clearing. For example, to protect human life and property from bushfires, cl 52.12 of the *Victoria Planning Provisions* allows landowners and occupiers in bushfire prone areas to clear vegetation around buildings and boundary fences, and to create or maintain defensible space, without a planning permit.⁸¹

Bushfire safety measures and design requirements are also implemented through land use planning arrangements, including planning guidelines, policies, codes and standards.⁸² These bushfire protection instruments may require or permit urban design features for bushfire protection, including fire-resilient landscaping and building siting and obligatory setback distances from the bush, or ‘Asset Protection Zones.’⁸³ Bushfire protection instruments also facilitate emergency fire responses by requiring permanent water supplies, emergency egress and evacuation routes, standards for road design and infrastructure protection.⁸⁴ Mainstreaming bushfire protection into state planning frameworks has been an area of major law reform in Australia in the past two decades, but the degree to which planning frameworks give effect to bushfire protections varies widely, both across states and territories and between local government areas.⁸⁵ Characteristics that affect whether bushfire protections are

⁸⁰ For example, landholders can maintain defensible space around existing dwellings as well as new developments by claiming bushfire mitigation exemptions from certain vegetation clearing rules: see below Part III(B)(2). These facilitative arrangements operate in parallel with obligations to manage fire hazards: see above Part III(A).

⁸¹ Introduced into the scheme in August 2020: Department of Environment, Land, Water and Planning (Vic), *Victoria Planning Provisions* (Web Page, 10 June 2022) <<https://planning-schemes.app.planning.vic.gov.au/Victoria%20Planning%20Provisions/ordinance>>, archived at <<https://perma.cc/E9FR-BU25>>. See also Michael Eburn and Geoffrey J Cary, ‘You Own the Fuel, but Who Owns the Fire?’ (2017) 26(12) *International Journal of Wildland Fire* 999, 1002–3; McDonald and McCormack (n 57) 146.

⁸² See below nn 83–4 and accompanying text.

⁸³ See, eg, Western Australian Planning Commission, *Guidelines for Planning in Bushfire Prone Areas* (Guidelines, 13 December 2021) 68.

⁸⁴ See, eg, NSW Rural Fire Service, *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities and Developers* (Report, November 2019) 44–5 (‘*Planning for Bush Fire Protection* (NSW)’); Queensland Fire and Emergency Services, *Bushfire Resilient Communities: Technical Reference Guide for the State Planning Policy State Interest* (Report, October 2019) 9–10; Western Australian Planning Commission, *Planning in Bushfire Prone Areas* (State Planning Policy 3.7, December 2015) 4 [6.7.1]; *ibid* 21–2 [4.5.1].

⁸⁵ Anita Foerster, Andrew Macintosh and Jan McDonald, ‘Transferable Lessons for Climate Change Adaptation Planning: Managing Bushfire and Coastal Climate Hazards in Australia’ (2013) 30(6) *Environmental and Planning Law Journal* 469, 470 (‘Transferable Lessons for

implemented or effective in practice include whether these instruments are directly referenced in state legislation or left to local councils to incorporate in planning provisions, whether bushfire safety requirements apply consistently across all stages of the planning process, and the level of discretion that decision-makers have in applying them.

Building regulations, such as national building standards and state and local building rules, operate alongside land use planning controls to improve the bushfire safety of dwellings.⁸⁶ The *National Construction Code* requires that new buildings in 'bushfire prone areas' comply with the relevant Australian standard.⁸⁷ The *Australian Standard: Construction of Buildings in Bushfire-Prone Areas* ('*Australian Standard*'), which governs construction in bushfire prone areas, requires a site-specific bushfire risk assessment based on bushfire attack level ('BAL') risk ratings which, in turn, determines the level of safety of building construction methods and materials required.⁸⁸ For example, a proposed dwelling in the highest category of risk (commonly described as the 'flame zone')⁸⁹ must be able to resist very high levels of ember attack, radiant heat and direct flame, so for dwellings in these areas, the *Australian Standard* requires non-

Climate Change Adaptation Planning'); Nigel Bell, 'Development in Australian Bushfire Prone Areas' (Design Note, 17 October 2019) <<https://acumen.architecture.com.au/environment/place/climate/development-in-australian-bushfire-prone-areas/>>, archived at <<https://perma.cc/JC2D-PE33>>; Michael Eburn and Bronwen Jackman, 'Mainstreaming Fire and Emergency Management into Law' (2011) 28(2) *Environmental and Planning Law Journal* 59, 61–2; Emily Browne and John Minnery, 'Bushfires and Land Use Planning in Peri-Urban South East Queensland' (2015) 52(3) *Australian Planner* 219, 219–20; Holland et al (n 77) 44.

⁸⁶ See generally Constanza Gonzalez-Mathiesen et al, 'Urban Planning: Historical Changes Integrating Bushfire Risk Management in Victoria' (2019) 34(3) *Australian Journal of Emergency Management* 60. The relevant regulations are contained within vols 1–2 of Australian Building Codes Board, *National Construction Code* (at 1 July 2020) <<https://ncc.abcb.gov.au/>>, archived at <<https://perma.cc/LK6V-RRUK>> ('*National Construction Code*'), and are implemented through land use planning schemes and local government codes, policies and permitting processes.

⁸⁷ *National Construction Code* (n 86) vol 1 pt G5. See also Standards Australia, *Australian Standard: Construction of Buildings in Bushfire-Prone Areas* (at 14 November 2018) 6 ('*Australian Standard*'). The *National Construction Code* (n 86) vol 2 pt 3.10.5 requires compliance with the *Australian Standard* (n 87).

⁸⁸ *Australian Standard* (n 87) 30–3. The BAL rating is calculated on slope, surrounding vegetation type and clearance, and the Fire Danger Index: at 13–17; Christine Eriksen, Scott McKinnon and Eliza de Vet, 'Why Insurance Matters: Insights from Research Post-Disaster' (2020) 35(4) *Australian Journal of Emergency Management* 42, 44. Importantly, some states vary in their implementation of *National Construction Code* (n 86) rules. NSW applies the *Australian Standard* (n 87) to BAL ratings through the process described in *Planning for Bush Fire Protection* (NSW) (n 84) 23: see *National Construction Code* (n 86) vol 2 pt 3.10.5.

⁸⁹ See, eg, NSW Rural Fire Service, *Australian Standard AS3959-1999* (Summary Table, 2018).

combustible cladding, bushfire shutters for windows and doors, and non-combustible gutters, among other things.⁹⁰

Building controls have the potential to increase protection for new buildings, though they only apply in areas designated as bushfire-prone by state or local governments.⁹¹ In practice, the majority of dwellings in bushfire-prone areas predate the BAL risk ratings, and the Bushfire Building Council has estimated that more than 90% of buildings in Australia are not built to the bushfire building standards.⁹² Responsibility for managing bushfire risks to these established dwellings is complex and unclear. For example, while most states require annual maintenance checks for fire safety measures to protect against fires that affect built infrastructure, the same obligation does not exist for bushfire safety measures. In any case, local councils have few monitoring obligations for building standards and other bushfire safety measures, and rarely have the resources, political capital or incentives to monitor and enforce such conditions.⁹³

Land use planning can govern whether and how landowners can rebuild in an area devastated by bushfire.⁹⁴ For example, the 2009 Victorian Royal Commission proposed a 'retreat and resettlement strategy for existing developments in areas of unacceptably high bushfire risk'.⁹⁵ This recommendation saw a modest 'opt in' scheme of land buybacks, resulting in 116 high-risk properties sold to government by 2014.⁹⁶ In contrast, in 2015 the Victorian Government introduced streamlined planning controls to facilitate rebuilding after the Wye River and Separation Creek bushfires,⁹⁷ and in 2020, introduced a new cl 52.10 to the

⁹⁰ *Australian Standard* (n 8) 9 [1.5.18]; Eliza de Vet and Christine Eriksen, 'When Insurance and Goodwill Are Not Enough: Bushfire Attack Level (BAL) Ratings, Risk Calculations and Disaster Resilience in Australia' (2020) 51(1) *Australian Geographer* 35, 37 ('When Insurance and Goodwill Are Not Enough'). Additional state construction and approval requirements may apply for development in the flame zone: at 38.

⁹¹ de Vet and Eriksen, 'When Insurance and Goodwill Are Not Enough' (n 90) 43.

⁹² *2020 Royal Commission Report* (n 1) 403 [19.20].

⁹³ See *NSW Bushfire Inquiry Final Report* (n 73) 195; Office of the Auditor General (WA), *Local Government Building Approvals* (Report No 28, 26 June 2019) 17.

⁹⁴ Note that land use planning rules intersect in important ways here with insurance laws: see below Part III(C)(7). Land use planning rules also intersect with disaster recovery and relief arrangements: see below Part III(C)(5). They also intersect with broader social and community drivers.

⁹⁵ *2009 Victorian Bushfires Royal Commission: Fire Preparation, Response and Recovery* (Final Report, July 2010) vol 2, 252 (recommendation 46) ('*2009 Victorian Bushfires Royal Commission Final Report*'). See also Foerster, Macintosh and McDonald, 'Transferable Lessons for Climate Change Adaptation Planning' (n 85) 474–5, considering 'retreat' strategies from fire-prone areas in a comparison of land use planning tools for coastal and bushfire hazards in Australia.

⁹⁶ *Bushfires Royal Commission Implementation Monitor* (Annual Report, July 2014) 45.

⁹⁷ 'Building in Wye/Sep Bushfire Affected Areas', *Colac Otway Shire* (Web Page), archived at <<https://perma.cc/9ABU-V47Q>>.

statewide planning scheme that, along with financial rebates, streamlined recovery and reconstruction for buildings destroyed by fire after 1 January 2019.⁹⁸ Over recent years, development has increased in heavily-vegetated, fire-prone peri-urban areas,⁹⁹ and this will remain an important land use planning challenge in coming decades.

While fire hazard reduction is governed under the laws described in Ring 1, land use planning laws also have a role to play. For example, recent reforms ensure that prescribed burning is not inhibited by planning laws, with the proviso that high-conservation value or sensitive environments usually receive specific protection. Many jurisdictions have also established planning law exemptions for clearing native vegetation that would otherwise be protected, provided that clearing is for a bushfire hazard reduction purpose. These exemptions are implemented through streamlined environmental assessment and landholder self-assessment frameworks under multiple statutes,¹⁰⁰ examples of which are described below.

2 *Native Vegetation and Private Land Management*

Historical clearing practices have left just 25% of Australia's original native vegetation extent intact, with far greater losses for some ecosystem types, such as native grasslands.¹⁰¹ Every state and territory has laws and policies governing native vegetation clearing on private land, which may be implemented through land use planning schemes or standalone legislation.¹⁰² These laws prohibit

⁹⁸ Clause 52.10 streamlines the planning permit application process, including by exempting certain planning permit applications from public notice and appeals processes, and now applies to emergencies other than bushfire: Department of Environment, Land, Water and Planning (Vic), *Planning Exemptions for Bushfire Reconstruction* (Factsheet, October 2021). This was accompanied by the Bushfire Recovery Planning and Building Assistance Rebate Program for the worst-affected regions, providing a rebate on costs up to \$5,000 per property for professional advice in support of a building and/or planning permit to rebuild or repair a dwelling: 'Rebuilding and Recovery after Bushfire', *Department of Environment, Land, Water and Planning (Vic)* (Web Page, 24 January 2022) <<https://www.planning.vic.gov.au/policy-and-strategy/bushfire/rebuilding-and-recovery>>, archived at <<https://perma.cc/VEA3-EDWY>>.

⁹⁹ Norman, Newman and Steffen (n 16) 4.

¹⁰⁰ Some states have also produced guidelines and factsheets to support landholders in making decisions about the permits and processes that are required to reduce fire risks on their land: see, eg, NSW Rural Fire Service, *Before You Light That Fire: Advice for Landowners That Are Planning To Burn Vegetation on Their Property* (Fact Sheet); *Bush Fire Environmental Assessment Code 2021* (NSW) r 1.4.

¹⁰¹ Noting that 13% of the estimated extent of Australia's original native vegetation has been completely converted to other land uses and another 62% has been disturbed or modified to some degree: Daniel J Metcalfe and Elisabeth N Bui, *Australia State of the Environment 2016: Land* (Report, 2017) 3.

¹⁰² See, eg, *Local Land Services Act 2013* (NSW) pt 5A.

some forms of clearing and may create processes for assessing and/or permitting other forms of clearing, including by burning.¹⁰³

Streamlined assessment processes, particularly for areas at high risk of bush-fire, have changed the operation of native vegetation clearing rules on private land in many jurisdictions.¹⁰⁴ For example, the *10/50 Vegetation Clearing Code of Practice for New South Wales* ('10/50 Code') creates a qualified rule of thumb for clearing certain vegetation without the need for approvals.¹⁰⁵ The *10/50 Code* allows landholders in designated entitlement areas to clear trees within 10 metres of a home, and 'understory' vegetation within 50 metres of a home, without a permit.¹⁰⁶ Landholders conduct an online self-assessment to determine whether their property falls within an 'entitlement area' and, if it does, they must comply with the *10/50 Code*.¹⁰⁷ This may be best described as a 'no-stop-shop' arrangement, given that landholders need not engage with fire or planning authorities to determine their eligibility under the scheme.

The new *Rural Boundary Clearing Code for New South Wales* ('*Rural Boundary Code*') provides similar streamlined assessment and approval processes for rural landholders.¹⁰⁸ The *Rural Boundary Code* allows landholders to clear up

¹⁰³ See, eg, *Forest Practices Regulations 2017* (Tas) reg 4, enumerating circumstances in which a forest practices plan is not required, including for fire management work under an approved fire management program: reg 4(h); Forest Practices Authority, *Guidelines for Consideration of Exemptions under Regulation 4 of Forest Practices Regulations 2017: Circumstances in Which a Forest Practices Plan Is Not Required* (Guidelines, 22 April 2021) 8. See also *Native Vegetation Act 1991* (SA) ss 26–7. The regulation of native vegetation removal in Victoria is primarily implemented through local council planning schemes: see generally Department of Environment, Land, Water and Planning (Vic), *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* (Guidelines, December 2017). The *Local Land Services Act 2013* (NSW) s 60C defines 'clearing' as 'removing', 'destroying' or 'burning' native vegetation, among other things.

¹⁰⁴ McDonald and McCormack (n 57) 158–9.

¹⁰⁵ NSW Rural Fire Service, *10/50 Vegetation Clearing Code of Practice for New South Wales* (Code, 4 September 2015) 6–9 ('10/50 Code'). The *Rural Fires Act 1997* (NSW) s 100C also exempts certain bush fire hazard reduction work from environmental planning controls under the *Environmental Planning and Assessment Act 1979* (NSW), and from the operation of the *Biodiversity Conservation Act 2016* (NSW) and *National Parks and Wildlife Act 1974* (NSW), with the qualification that such clearing must comply with a valid bushfire risk management plan and bushfire hazard reduction certificate.

¹⁰⁶ *10/50 Code* (n 105) 9. The *10/50 Code* (n 105) is authorised under the *Rural Fires Act 1997* (NSW) pt 4 div 9.

¹⁰⁷ As identified through a mapping tool available on the NSW Rural Fire Service website: 'Check If You're in a 10/50 Area', NSW Rural Fire Service (Web Page) <<https://www.rfs.nsw.gov.au/plan-and-prepare/1050-vegetation-clearing/tool>>, archived at <<https://perma.cc/S3H5-4D43>>. See also *10/50 Code* (n 105) 6–7.

¹⁰⁸ NSW Rural Fire Service, *Rural Boundary Clearing Code for New South Wales* (Code of Practice, 26 August 2021) 7–8 ('*Rural Boundary Code*').

to 25 metres from their property boundary to reduce bushfire hazards without approvals under any other legislation, even if the area to be cleared is threatened species habitat.¹⁰⁹ The *Rural Boundary Code* was developed in response to a NSW Bushfire Inquiry recommendation to further simplify vegetation management for rural landholders.¹¹⁰ Native vegetation rules in other states also exempt some clearing along fence lines, though they are far more limited. For example, in Victoria, rural landholders may clear a combined maximum width of four metres across existing boundary fences;¹¹¹ in South Australia the exemption extends to a maximum width of five metres;¹¹² and in the Northern Territory, perimeter firebreaks must be no less than four metres wide and cleared of overhanging branches and any vegetation greater than 50 millimetres high.¹¹³

These streamlined assessment processes for native vegetation clearing were designed to improve the bushfire readiness of communities.¹¹⁴ These processes aim to create certainty about the application of exemptions from clearing rules and reduce a perceived regulatory burden for landowners reducing fire hazards on their land.¹¹⁵ Some of these processes have been tightened in recent years, including in response to criticisms that they prioritise fire hazard risk reduction

¹⁰⁹ *Rural Fires Act 1997* (NSW) ss 100RA–100RB. Though some vegetation is excluded from the *Rural Boundary Code* (n 108), including trees of significance to Aboriginal people, certain designated critically endangered ecological communities, and areas such as Lord Howe Island and designated areas of outstanding biodiversity value: cls 6.2, 6.7–6.8. In addition, clearing cannot be inconsistent with a legal obligation under, for example, conservation agreements, conditions on development permits or court orders: cl 6.9.

¹¹⁰ *NSW Bushfire Inquiry: March Progress Report* (n 73) 26.

¹¹¹ See, eg, Department of Sustainability and Environment (Vic), *Preparing for Bushfire: 10/30 Rule, 10/50 Rule and Fence Line Clearing* (Fact Sheet, October 2011) 2 ('*Preparing for Bushfire*'). For land outside of metropolitan areas, where the 10/30 rule applies, an additional one metre can be cleared if land on the other side of the fence has already been cleared to a width of four metres or more: Department of Environment, Land, Water and Planning (Vic), *Vegetation Clearing Exemptions: Bushfire Protection* (Fact Sheet, August 2020) 2 ('*Vegetation Clearing Exemptions*').

¹¹² 'Fire Prevention: Around Dwellings and Fence Lines', *Department for Environment and Water (SA)* (Web Page) <<https://www.environment.sa.gov.au/topics/native-vegetation/clearing/fire-prevention>>, archived at <<https://perma.cc/3ZES-V47P>>.

¹¹³ *Bushfires Management Act 2016* (NT) ss 68(1), (6).

¹¹⁴ *Preparing for Bushfire* (n 111) 1.

¹¹⁵ *Vegetation Clearing Exemptions* (n 111) 1. These schemes cannot exempt or override obligations to protect federally listed threatened species and ecological communities under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) ss 18–19.

over other important landscape values,¹¹⁶ and based on evidence that landowners have used the exemptions to clear vegetation for purposes other than bushfire protection, including to improve views and real estate values.¹¹⁷ Nevertheless, recent laws have tended to increase the responsibility of private landholders for mitigating bushfire risks on their land.¹¹⁸ As obligations to remove fire risks from private land are applied more broadly and enforced more strictly, exemptions from native vegetation protections are also likely to become more common.

3 Forestry Laws

Bushfires can affect the viability and productivity of native and plantation forestry operations directly, by destroying forestry assets, and indirectly, for example, by interrupting the supply of timber and pulp products to the domestic building industry and international markets. Forestry laws govern the native and plantation forestry industries as well as some aspects of native vegetation management.¹¹⁹ For example, regeneration burns may be required after timber is harvested;¹²⁰ forestry officials may establish firebreaks, and extinguish or manage hazardous fires in state forests, timber reserves and other forestry

¹¹⁶ See, eg, the revisions made to the NSW 10/50 scheme by the *Rural Fires Amendment (Bush Fire Prevention) Act 2015* (NSW) sch 1. See also New South Wales, *Parliamentary Debates*, Legislative Assembly, 12 August 2015, 2521–2 (David Elliott, Minister for Emergency Services) (*Parliamentary Debates* (NSW)).

¹¹⁷ *Parliamentary Debates* (NSW) (n 116) 2521–2.

¹¹⁸ Legal reforms in 2020 in NSW have created the strongest powers yet for fire agencies to require private landowners to manage vegetation on their land to mitigate fire risk, with expanded powers for the Rural Fire Service to enter private property, clear land or conduct hazard reduction burns if a landowner has failed or refused to do so: *Rural Fires Act 1997* (NSW) s 70(2). There have also been legal reforms to facilitate hazard reduction, including on private land: see, eg, *NSW Bushfire Inquiry: March Progress Report* (n 73) 3.

¹¹⁹ Relevant statutory frameworks provide for the operation of, access to, and other uses of forestry products and forestry land, including through stock grazing and apiary permits: see, eg, *Forestry Act 2012* (NSW) pts 3–5; *Forestry Act 1959* (Qld) ss 35(1)(c)–(d); *Forestry Act 1950* (SA) pt 4; *Forest Management Act 2013* (Tas) ss 13–16; *Sustainable Forests (Timber) Act 2004* (Vic) pts 2, 5–7A; *Conservation and Land Management Act 1984* (WA) pts V, VIII; *Forest Products Act 2000* (WA) pts 7–8.

¹²⁰ *Sustainable Forests (Timber) Act 2004* (Vic) ss 3(c), 70. But see *WOTCH Inc v VicForests* [No 8] [2021] VSC 268, [31], [40] (Keogh J); Department of Environment and Primary Industries (Vic), *Code of Practice for Timber Production 2014* (Code of Practice, 2014) (*Timber Production Code of Practice*), requiring that harvested coupes be regenerated as soon as practical, and that all practical measures are taken to protect areas excluded from harvesting from the impact of regeneration burns: cls 2.6.1.7–2.6.1.8.

areas;¹²¹ and, in the absence of a permit, fires that are likely to injure, burn off or clear vegetation or forestry produce in a forestry area are prohibited.¹²²

Forestry statutes also impose duties on lessees, licensees and permit holders to take reasonable measures to prevent, detect, control and extinguish any bush, grass or other fire in a forestry area,¹²³ and may empower forestry agencies to cooperate in hazard reduction burns on adjoining private or public land.¹²⁴ Forestry laws include subsidiary instruments such as forestry codes, regulations and policies¹²⁵ and, in some jurisdictions, intergovernmental Regional Forest Agreements ('RFAs') between state and Commonwealth governments.¹²⁶ RFAs provide Commonwealth accreditation to state forest management arrangements, exempting forestry operations from Commonwealth approvals processes under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) including in relation to land clearing and fire management.¹²⁷

Various measures have been taken since the Black Summer fires to assess damage and the potential for short-term adjustments to forestry operations in fire-affected areas. The NSW Environment Protection Authority imposed new conditions on some state forestry operations to protect soil, water quality and

¹²¹ See, eg, *Forestry Act 1959* (Qld) s 61TW; *Forests Act 1958* (Vic) s 29; *Sustainable Forests (Timber) Act 2004* (Vic) pt 8; *Conservation and Land Management Act 1984* (WA) ss 33(1)(aa), 99A(2)(b), 120.

¹²² See, eg, *Forestry Act 1959* (Qld) s 62; *Forests Act 1958* (Vic) ss 63–4; *Conservation and Land Management Act 1984* (WA) s 104(1).

¹²³ See, eg, *Forestry Act 1959* (Qld) ss 63–63A; *Forests Act 1958* (Vic) s 67; *Conservation and Land Management Act 1984* (WA) ss 104(1)(b), 105. See also *Sustainable Forests (Timber) Act 2004* (Vic) ss 80–1.

¹²⁴ See, eg, *Forestry Act 1959* (Qld) s 68; *Forests Act 1958* (Vic) ss 62B–62C.

¹²⁵ See, eg, *Timber Production Code of Practice* (n 120). Four codes of practice govern private native forestry across forestry regions in NSW: see 'Private Native Forestry Codes of Practice', *Local Land Services (NSW)* (Web Page) <<https://www.lls.nsw.gov.au/help-and-advice/private-native-forestry/private-native-forestry-code-of-practice>>, archived at <<https://perma.cc/28MF-7J58>>.

¹²⁶ RFAs are in operation in Tasmania and in regions of NSW, Western Australia ('WA') and Victoria: see 'Regional Forest Agreements', *Department of Agriculture, Water and the Environment (Cth)* (Web Page, 22 October 2020) <<https://www.awe.gov.au/agriculture-land/forestry/policies/rfa>>, archived at <<https://perma.cc/Q28M-LYYL>>.

¹²⁷ The Full Court of the Federal Court of Australia has discussed the scope of Victoria's RFAs and their interaction with certain other Victorian and Commonwealth laws in detail: *VicForests v Friends of Leadbeater's Possum Inc* (2021) 285 FCR 70, 103–4 [126]–[129] (Jagot, Griffiths and SC Derrington JJ).

biodiversity in heavily burnt landscapes,¹²⁸ including limiting harvest intensity and protecting habitat hollows and some areas of unburnt or lightly-burnt trees.¹²⁹ In Victoria, the State and Commonwealth governments initiated a joint ‘Major Event Review’ to assess the environmental, economic, social and cultural impacts of the fires and their implications for the long-term stability of Victoria’s forest industries.¹³⁰ The review is being overseen by an independent panel, and is the first of its kind, due to report in 2021 and make recommendations about remedial actions for future forestry operations in the State.¹³¹

After the Black Summer fires, unburnt and lightly-burnt forests in south-eastern Australia are dramatically more important habitats for species. Emergency federal funding¹³² and other measures to protect native forest harvesting have been criticised for accelerating the destruction of these areas,¹³³ even as

¹²⁸ The NSW Environment Protection Authority’s website provides a full list of sites and new conditions: ‘Bushfire-Affected Forestry Operations’, *NSW Environment Protection Authority* (Web Page, 14 July 2021) <<https://www.epa.nsw.gov.au/your-environment/native-forestry/bushfire-affected-forestry-operations>>, archived at <<https://perma.cc/7DEE-C8AE>>.

¹²⁹ *Ibid.*

¹³⁰ The major event review provision is unique to Victorian RFAs and was included as part of the RFA modernisation process in March 2021, supported by a power held by the Minister to review the allocation of timber resources in Victoria if there has been ‘a significant variation, as a result of fire ... in the timber resources in State forests which are available for timber harvesting in accordance with sustainable forest management’: *Sustainable Forests (Timber) Act 2004* (Vic) s 18(2)(a). See ‘The Major Event Review of Regional Forest Agreements’, *Department of Environment, Land, Water and Planning (Vic)* (Web Page, 6 January 2022) <<https://www.delwp.vic.gov.au/futureforests/what-were-doing/the-major-event-review-of-regional-forest-agreements>>, archived at <<https://perma.cc/27NP-GP35>>. At the time of writing, a final report had yet to be delivered to the Victorian and Commonwealth governments. For updates, see ‘Major Event Review of the Victorian Regional Forest Agreements’, *Department of Agriculture, Water and the Environment (Cth)* (Web Page, 14 December 2021) <<https://www.awe.gov.au/agriculture-land/forestry/policies/rfa/regions/victoria/mer>>, archived at <<https://perma.cc/57Q8-4DVX>>.

¹³¹ Commonwealth of Australia and State of Victoria, *Victorian Regional Forest Agreements: Scoping Agreement for the Major Event Review To Assess the Impacts of the 2019–20 Bushfires* (Agreement, September 2020) 5–8 <<https://www.awe.gov.au/sites/default/files/documents/major-event-review-scoping-agreement.pdf>>, archived at <<https://perma.cc/GQ3H-6DB7>>.

¹³² Including \$65 million in Commonwealth funding for privately-owned native forestry operators in NSW and Victoria to rebuild wood processing facilities and subsidise transport costs for burnt, salvaged logs to be processed outside of fire-affected areas: ‘Supporting Forestry Bushfire Recovery’, *Department of Agriculture, Fisheries and Forestry (Cth)* (Web Page, 21 September 2021) <<https://www.agriculture.gov.au/forestry/bushfirerecovery>>, archived at <<https://perma.cc/4YEW-HC5D>>.

¹³³ ER Bendall et al, *Conserving Fauna in Fire-Prone Landscapes: A Review of Fire-Associated Management Actions That Affect Fauna Conservation and Recovery* (Report, July 2021) 4, noting that salvage logging has an overwhelmingly negative impact on native fauna post-fire. The

native forestry operations are being phased out in some jurisdictions.¹³⁴ Increasingly frequent and severe bushfires in south-eastern Australia will complicate these plans for Australia's forestry industry, as the intensive nature of plantation forestry renders it even more vulnerable to bushfire than native forests.¹³⁵ Future fire regimes will exacerbate challenges and conflicts over forest management and, without statutory intervention, Australian courts will continue to have to decide relative priorities and trade-offs for managing Australia's forest estate.¹³⁶

4 Protected Area Management Laws

Bushfires can have a catastrophic impact on natural and cultural values protected in Australia's reserve estate, particularly when entire protected areas are burnt, as occurred in some places in 2019–20.¹³⁷ The primary purpose of protected area legislation, regulations and statutory management plans is to ensure that land designated as a protected area is managed in a way that maintains the area's natural and cultural values, including from the harmful effects of fire.¹³⁸

In some cases, protected area laws empower land managers to use fire to conserve protected values, including to recover lost ecological processes, improve the health of natural ecosystems and restore Indigenous fire practices.¹³⁹

Supreme Court of Victoria has issued injunctions to prevent Victoria's forestry agency from conducting logging and regeneration burns in multiple coupes since early 2020: see, eg, *WOTCH Inc v VicForests [No 4]* [2020] VSC 433, [5]–[6] (Keogh J). See also *Kinglake Friends of the Forest Inc v VicForests* [2020] VSC 865, [35]–[36] (Ginnane J).

¹³⁴ Such operations will be phased out by 2030 under the Victorian Forestry Plan: 'Victorian Forestry Plan', *Department of Jobs, Precincts and Regions (Vic)* (Web Page, 11 April 2022) <<https://djpr.vic.gov.au/forestry/forestry-plan>>, archived at <<https://perma.cc/6C4R-8MMG>>; and by the beginning of 2024 in WA: Government of Western Australia, 'McGowan Government's Historic Move To Protect Native Forests' (Media Release, 8 September 2021).

¹³⁵ In NSW, 26% of the plantation estate was burnt in the Black Summer fires and more than 70% of plantations experienced 'severe canopy damage': David MJS Bowman et al, 'The Severity and Extent of the Australia 2019–20 *Eucalyptus* Forest Fires Are Not the Legacy of Forest Management' (2021) 5(7) *Nature Ecology and Evolution* 1, 1. The impact in plantations was greater than that observed in native forestry coupes: at 4–5.

¹³⁶ Legal reforms are being investigated to resolve this tension in favour of conservation: see, eg, 'Defending the Unburnt: A Landmark Legal Initiative', *Environmental Defenders Office* (Web Page, 15 April 2021) <<https://www.edo.org.au/2021/04/15/defending-the-unburnt-a-landmark-legal-initiative/>>, archived at <<https://perma.cc/K2TG-6JU4>>.

¹³⁷ For example, 100% of Charleston Conservation Park and Porter Scrub Conservation Park were burnt in the South Australian bushfires: Government of South Australia (n 47) iii.

¹³⁸ See Tony Press, *Tasmanian Wilderness World Heritage Area Bushfire and Climate Change Research Project* (Final Report, December 2016) 9–12.

¹³⁹ See Phillipa C McCormack, 'Australia's Legal Frameworks for Biodiversity Conservation: Facilitating Adaptation in a Rapidly Changing World' (PhD Thesis, University of Tasmania,

For example, the statutory management plan for Kakadu National Park reintroduced cultural burning to wetlands to restore Indigenous connection to Country and rebuild lost biodiversity processes.¹⁴⁰ Protected area laws also govern the management of bushfires in protected areas,¹⁴¹ including with obligations to exclude fire to protect sensitive ecosystems such as Gondwana forests and alpine peatlands¹⁴² and to actively suppress or extinguish fires.¹⁴³ Suppressing or extinguishing fires may require firebreaks, either through back burning or mechanical clearing with bulldozers, and applying chemical fire retardants and suppressants.¹⁴⁴ Protected area managers may be required to rehabilitate a protected area if a fire, or fire management activities, have caused damage to protected values.¹⁴⁵ There is some controversy about how best to balance the value of extinguishing a fire to maintain values and protect neighbouring

January 2018) ch 5. However, fire intensity, frequency and timing matter a great deal: see Matthew G Gale and Geoffrey J Cary, 'Stand Boundary Effects on Obligate Seeding *Eucalyptus Delegatensis* Regeneration and Fuel Dynamics following High and Low Severity Fire: Implications for Species Resilience to Recurrent Fire' (2021) 46(5) *Austral Ecology* 802, 802–3, 814.

¹⁴⁰ Sandra McGregor et al, 'Indigenous Wetland Burning: Conserving Natural and Cultural Resources in Australia's World Heritage-Listed Kakadu National Park' (2010) 38(6) *Human Ecology* 721, 722–4; Kakadu National Park Board of Management, *Kakadu National Park Management Plan 2016–2026* (Report, 2016) 88–91 ('*Kakadu Management Plan*').

¹⁴¹ Legislation and regulation may be accompanied by other, more specific instruments, such as codes of practice or fire management plans: see, eg, *National Parks and Reserves Management Act 2002* (Tas) s 88A, which empowers the Minister to approve a code of practice guiding fire prevention, management and control in Tasmania's reserved land. See also Tasmania Parks & Wildlife Service, *Tasmanian Wilderness World Heritage Area: Draft Fire Management Plan* (Plan, 2021) ('*Tasmanian Wilderness World Heritage Area*').

¹⁴² See, eg, *National Parks and Reserves Management Act 2002* (Tas) sch 1. The NSW Government's Macquarie Marshes vegetation threshold of '[t]oo [f]requently [b]urnt' requires managers to exclude fire as much as possible: National Parks & Wildlife Service (NSW), *Macquarie Marshes Nature Reserve Fire Management Strategy (Type 2) 2020–2025* (Strategy, 13 March 2020). See generally *Tasmanian Wilderness World Heritage Area* (n 141).

¹⁴³ See, eg, *National Parks and Reserves Management Act 2002* (Tas) s 30(3)(ca), which empowers management to 'take any steps or undertake any activities that the managing authority considers necessary or expedient for the purposes of preventing, managing or controlling fire in reserved land'.

¹⁴⁴ See Jennifer Styger, *The Impact of Firefighting Chemicals on the Natural Values of the Tasmanian Wilderness World Heritage Area* (Report, 2018) 1. Bulldozers and chaining, also known as fuel-modification or scrub rolling, are used to create firebreaks and access routes across fire grounds and may be explicitly permitted under protected area management plans: see, eg, Department of Primary Industries, Parks, Water and Environment (Tas), *Tasmanian Wilderness World Heritage Area (TWWHA) Management Plan* (Report, 2016) 171.

¹⁴⁵ For example, the fire strategy for the Macquarie Marshes requires emergency rehabilitation after fire to prevent erosion where vegetation has been cleared for new firebreaks, containment lines and access tracks, requiring that drainage lines and channels disturbed by the construction of containment lines be rehabilitated as soon as possible as part of the suppression operations: McCormack, 'Climate Change, Wildfires and Wetland Ecosystem Services' (n 49) 432.

properties, and the short- and long-term impacts of firefighting methods in sensitive areas.¹⁴⁶ There is no single formula for balancing these objectives across all ecosystems or regions, and the balance will likely become more complex in future, as catastrophic bushfires threaten fire-sensitive ecosystems and repeatedly burn protected areas beyond their capacity to recover.¹⁴⁷

Protected area managers in Australia have been criticised following major bushfires for failing to mitigate fire risks on public land. The 2020 Royal Commission into National Natural Disaster Arrangements ('National Royal Commission') noted that this critique may be due, at least in part, to a lack of community understanding about the role and effectiveness of bushfire mitigation strategies.¹⁴⁸ Nevertheless, the NSW Government has already begun implementing a recommendation from its latest inquiry that public land managers be subject to the same bushfire risk mitigation obligations as those imposed on private landowners. The *Rural Fires Act 1997* (NSW) also now requires public land managers to pass on complaints they receive about bushfire hazards directly to the NSW Rural Fire Service.¹⁴⁹ These kinds of reforms may increase scrutiny and costs for public protected area agencies while also creating conflict between bushfire mitigation priorities and protection for other important values.¹⁵⁰

¹⁴⁶ See, eg, Styger (n 144) 2–6; *Tasmanian Wilderness World Heritage Area* (n 141) 51.

¹⁴⁷ Senate Environment and Communications References Committee, Parliament of Australia, *Responses to, and Lessons Learnt from, the January and February 2016 Bushfires in Remote Tasmanian Wilderness* (Report, December 2016) 10, 18; Press (n 138) 23. Fires in some protected areas will trigger Australia's international reporting obligations, such as the requirement to report changes to the ecological character of listed wetlands: McCormack, 'Climate Change, Wildfires and Wetland Ecosystem Services' (n 49) 428. Fires in such areas may also trigger '[w]orld [h]eritage in [d]anger' listings: see 'The World Heritage Convention', *Department of Climate Change, Energy, the Environment and Water (Cth)* (Web Page, 3 October 2021) <<https://www.awe.gov.au/parks-heritage/heritage/about/world/world-heritage-convention>>, archived at <<https://perma.cc/8AFG-9SHY>>.

¹⁴⁸ *2020 Royal Commission Report* (n 1) 375 [17.58]. A similar critique was rejected in Australasian Fire and Emergency Service Authorities Council, *AFAC Independent Operational Review: A Review of the Management of the Tasmanian Fires of December 2018–March 2019* (Report, July 2019) 32 [4.3.11], 34 [4.3.17]–[4.3.18].

¹⁴⁹ *Rural Fires Act 1997* (NSW) s 74CA, as amended by *Bushfires Legislation Amendment Act 2020* (NSW), which came into effect in November 2020; *NSW Bushfire Inquiry Final Report* (n 73) 176 (recommendation 23). See also *NSW Bushfire Inquiry: March Progress Report* (n 73) 22.

¹⁵⁰ For a broader discussion about competing values and trade-offs in legal frameworks: see generally Foerster, Macintosh and McDonald, 'Trade-Offs in Adaptation Planning' (n 5); Blythe McLennan and Michael Eburn, 'Exposing Hidden-Value Trade-Offs: Sharing Wildfire Management Responsibility between Government and Citizens' (2015) 24(2) *International Journal of Wildland Fire* 162.

5 *Indigenous Land and Fire Management*

Indigenous peoples have used fire to shape and manage landscapes across the Australian continent for more than 60,000 years.¹⁵¹ Colonisation disrupted traditional burning practices,¹⁵² and the re-emergence of traditional burning practices is testament to the resilience of Indigenous peoples and their cultures.

‘Cultural burning’ describes the deliberate use, management or exclusion of fire for cultural purposes.¹⁵³ Relevant laws will depend on the tenure of the land that is to be burned, and the nature of Indigenous rights to manage that land. For example, Indigenous peoples may own land in freehold, including as a result of land rights legislation¹⁵⁴ and, in very rare cases, where a native title determination recognises ‘exclusive possession’ of land.¹⁵⁵ More commonly, native title rights and interests are limited to rights to practice traditional customs and ‘have a say’ in land management.¹⁵⁶ To conduct cultural burns on privately-owned land, Indigenous landholders will typically need to comply with the same legal obligations as non-Indigenous landholders.¹⁵⁷ On land that is co-managed, including where non-exclusive native title rights exist, ‘having a say’ may include the right to conduct or negotiate certain forms of cultural burning

¹⁵¹ ‘Cultural Burning Practices in Australia’ (Background Paper, Royal Commission into National Natural Disaster Arrangements, 15 June 2020) 4 (‘Cultural Burning Background Paper’).

¹⁵² Statutory prohibitions on burning are one source of this disruption: see above Part II.

¹⁵³ Cultural burning may have other benefits, such as hazard reduction and carbon abatement: see below Part III(C)(3). However, by definition, the primary purpose of these burns is the protection, maintenance and enhancement of Indigenous culture.

¹⁵⁴ See, eg, *Aboriginal Land Grant (Jervis Bay Territory) Act 1986* (Cth) pt III; *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) s 4; *Aboriginal Land Act 1991* (Qld) pt 2A; *Aboriginal Land Rights Act 1983* (NSW) pt 2; *Aboriginal Lands Trust Act 2013* (SA) pt 4; *Anangu Pitjantjatjara Yankunytjatjara Land Act 1981* (SA) pts 2–3; *Aboriginal Lands Act 1995* (Tas) pt 3; *Aboriginal Lands Act 1970* (Vic) s 9; *Aborigines Act 1889* (WA) 52 Vict, No 24, s 8 (although the Government could retain title for Crown land reserved for Aboriginal people). Private hand backs of land are uncommon: but see Phoebe Hosier, ‘Tom and Jane Own 220 Hectares: Today They’re Handing Back Half to the Aboriginal Community’, *ABC News* (online, 21 February 2019) <<https://www.abc.net.au/news/2019-02-21/tasmanian-private-land-handed-back-to-aboriginal-community/10825984>>, archived at <<https://perma.cc/75C5-S6QJ>>.

¹⁵⁵ *Fortescue Metals Group v Warrie* (2019) 273 FCR 350, 451 [363] (Jagot and Mortimer JJ), 452–3 [370] (Robertson and Griffiths JJ). See also Richard Bartlett, ‘Native Title Rights to Exclusive Possession, Use and Enjoyment and the Yindjibarndi’ (2018) 43(1) *University of Western Australia Law Review* 92, 102–4.

¹⁵⁶ Human Rights and Equal Opportunity Commission, *Native Title Report 2006* (Report, 5 April 2007) 32. See also *Native Title Act 1993* (Cth) ss 44A–44B; *Traditional Owner Settlement Act 2010* (Vic) pt 4. See generally ‘Glossary’, *National Native Title Tribunal* (Web Page) <<http://www.nntt.gov.au/Pages/Glossary.aspx>>, archived at <<https://perma.cc/5UDQ-TFQL>>.

¹⁵⁷ That is, in accordance with the laws described in Part III(B) above, for ‘private land’ and ‘native vegetation.’

or collaborate with land managers such as parks agencies to burn for cultural (and other) purposes.¹⁵⁸

In some jurisdictions, cultural burning may be assessed and permitted by fire agencies or land management authorities on non-Indigenous land.¹⁵⁹ For example, sch 5A of the *Local Land Services Act 2013* (NSW) allows native vegetation clearing for non-commercial, 'traditional Aboriginal cultural activit[ies]', implicitly including cultural burning.¹⁶⁰ There are few formal mechanisms for facilitating 'good fire' through multi-tenure cultural burning, including on non-Indigenous private land, but there is growing interest in the possibility of legal support for this form of fire management at landscape scales.¹⁶¹

C Legal Context (Ring 3)

The third ring of Figure 1 illustrates the broader legal context for bushfires in Australia. These laws are not specific to fire or land management but shape the wider context that informs social and ecological vulnerability and resilience to bushfire. These laws operate across a diverse range of issues, including emergencies and disasters, governing climate change and public health. This legal context is important for understanding the effectiveness or failure of particular aspects of bushfire governance.

1 Emergency Management Laws

Emergency management laws and policies provide a fundamentally important legal context to Australia's legal framework for bushfire. These laws and policies establish and implement the Prevention, Preparedness, Response and Recovery management framework, and underpin all fire response activities. However, emergency management laws govern more than simply emergency response or, in this context, fire management. Australian emergency management

¹⁵⁸ See, eg, *Kakadu Management Plan* (n 140) 90 [5.3.18].

¹⁵⁹ See McNamara (n 14) 35–6; 'Cultural Burning Background Paper' (n 151) 6–10.

¹⁶⁰ *Local Land Services Act 2013* (NSW) sch 5A cl 18.

¹⁶¹ See below Part IV.

legislation¹⁶² provides for emergency planning at the local, regional and state level,¹⁶³ and for the exercise of emergency powers by the Minister or appointed emergency controller (often the police commissioner or local police commander).¹⁶⁴ It also ensures whole-of-government response and planning for long-term recovery from emergencies, including the appointment of a recovery coordinator.¹⁶⁵

There are overlaps between the legal context for emergency management and the broader, institutional context listed in Ring 4. Chief and delegated officers are given power to take whatever action is necessary to respond to a bushfire as well as more general emergency management powers, such as the power to require people to remove or reduce risks in anticipation of future fires (for example, to clear vegetation but not to retrofit their homes with fire protection) and to take action after a fire (for example, to secure areas and remove debris).¹⁶⁶ In theory, emergency management should be pre-emptive in the sense that taking steps to prevent a hazard is considered part of emergency management. Emergency managers however have little control over prevention. The discussion of other laws above demonstrates that all laws impact on risk and contribute to a greater or lesser degree to risk prevention. Chief officers or professional emergency managers cannot determine building codes or make land use planning decisions. Although ‘prevention’ is considered part of emergency management theory, institutional arrangements for emergency management, including providing for emergency services, are mostly reactive, coming to the fore during an emergency and not during the ‘calm before the [fire]storm’ when steps could be taken to reduce risk.¹⁶⁷ Emergency management is a key element in bushfire law but the risk posed by fire is just one factor to be considered by many decision-makers.¹⁶⁸

¹⁶² *Emergencies Act 2004* (ACT); *State Emergency and Rescue Management Act 1989* (NSW); *Emergency Management Act 2013* (NT); *Disaster Management Act 2003* (Qld); *Emergency Management Act 2004* (SA); *Emergency Management Act 2006* (Tas); *Emergency Management Act 1986* (Vic); *Emergency Management Act 2013* (Vic); *Emergency Management Act 2005* (WA).

¹⁶³ With the exception of the Australian Capital Territory which, because of its size, does not have local or regional planning: *Emergencies Act 2004* (ACT) pt 4.4; Explanatory Statement, *Emergencies Bill 2004* (ACT) 2.

¹⁶⁴ *Emergencies Act 2004* (ACT) pt 3.2.

¹⁶⁵ See, eg, *ibid* pt 7 div 7.3.3; *Emergency Management Act 2013* (NT) ss 32–3; *Emergency Management Act 2005* (WA) pt 2 div 2.

¹⁶⁶ See, eg, *Emergencies Act 2004* (ACT) ch 5; *Emergency Management Act 2013* (NT) pt 3.

¹⁶⁷ Michael Eburn and Stephen Dovers, ‘Mainstreaming Fire and Emergency Management across Legal and Policy Sectors: Preliminary Findings on Measures of Success’ (2012) 27(2) *Australian Journal of Emergency Management* 14, 16–17.

¹⁶⁸ See below Part IV.

2 *Other Environmental and Natural Resource Management Laws*

Environmental laws are operationalised through assessment, approval and enforcement processes when human activities harm, or threaten to harm, environmental values. These laws provide a crucial context for reducing fire hazards and responding to bushfires. Some environmental laws are already addressed in Ring 2, such as protected area management and aspects of land use planning (through which environmental laws such as native vegetation and biodiversity protections find their practical implementation). Other environmental laws, such as air, land and water pollution controls also intersect closely with categories of law such as public health laws that protect humans from harmful pollutants such as bushfire smoke.¹⁶⁹ Natural resource management laws govern the use and management of natural assets for human-oriented values such as forestry industries,¹⁷⁰ mining,¹⁷¹ weed management¹⁷² and the protection of water catchments.¹⁷³

It is useful to begin by considering environmental and natural resource management laws together because they intersect in relation to fire in important ways. For example, freshwater ecosystems and drinking water catchments are both increasingly at risk of contamination during and immediately after bushfires, when rain can wash ash and sediments into waterways. The implications of this contamination range from habitat destruction and the suffocation of freshwater species, to 'do not drink' declarations for city water supplies

¹⁶⁹ See below Part III(C)(6). As noted in the introduction to Part III above, some legal instruments are common to both environmental and public health laws for smoke pollution, including the *National Environment Protection (Ambient Air Quality) Measure 1998* (Cth) and *National Environment Protection Council Act 1994* (ACT). Pollution laws are commonly considered to fall within a sub-category of environmental law, and regulate — as a form of environmental pollution — smoke emitted both from domestic fires and from controlled fires such as hazard reduction burns: see, eg, *Environmental Management and Pollution Control (Smoke) Regulations 2019* (Tas) regs 7–9, developed under the *Environmental Management and Pollution Control Act 1994* (Tas) s 102.

¹⁷⁰ See above Part III(B)(3).

¹⁷¹ For example, mine site rehabilitation can dramatically increase fuel loads and fire risk in the broader landscape: Andrew H Grigg, Melanie A Norman and Carl D Grant, 'Prescribed Burning of Thinning Slash in Regrowth Stands of Jarrah (*Eucalyptus Marginata*) following Bauxite Mining in South-West Australia' (2010) 19(6) *International Journal of Wildland Fire* 737, 738, 744.

¹⁷² The intersection between weed and fire management can present valuable opportunities for co-benefits. For example, the *Gamba Fire Mitigation Policy* (n 58) authorises Territory officials under both the *Weeds Management Act 2001* (NT) and the *Bushfires Management Act 2016* (NT) to work with landholders to reduce risks from late-season fires in gamba grass, because this nationally-listed weed can cause fires up to eight times more intense than native grass fires: *Gamba Fire Mitigation Policy* (n 58) 5.

¹⁷³ See, eg, *Water Act 2007* (Cth) ss 3(a), (c), (d)(iii).

and damage to coastal fish nurseries, seagrass systems and aquaculture industries.¹⁷⁴ Some existing legal and institutional arrangements are poorly equipped to facilitate emergency intervention and long-term rehabilitation across connected waterway and catchment systems, where biodiversity and water resource values are damaged by fire and sediments.¹⁷⁵ The complexity of planning for and managing the effects of bushfire in these connected environments will require more research and may require new legal principles and priorities that transcend traditional siloed approaches.¹⁷⁶

A more specific focus on species conservation law — a well-recognised subcategory of environmental law — also demonstrates the complexity of governing fire for environmental outcomes. Some legal instruments for conserving species, habitats and ecological communities promote the use of fire to conserve fire-adapted threatened species and habitats.¹⁷⁷ For example, the statutory recovery plan for the endangered northern bettong recommends actively experimenting with fire as a recovery tool, including by establishing ‘an experimental fire management mosaic with intensive monitoring.’¹⁷⁸ Recent research

¹⁷⁴ Jason Alexandra and C Max Finlayson, ‘Floods after Bushfires: Rapid Responses for Reducing Impacts of Sediment, Ash, and Nutrient Slugs’ (2020) 24(1) *Australasian Journal of Water Resources* 9, 9–10; Ian White et al, ‘The Vulnerability of Water Supply Catchments to Bushfires: Impacts of the January 2003 Wildfires on the Australian Capital Territory’ (2006) 10(2) *Australasian Journal of Water Resources* 179, 183. Drinking water systems can also become contaminated when bushfire ash and chemical runoff or melted plastic affect drinking water pipes, an issue that remains unregulated and poorly understood, but which intersects with building regulations: see above Part III(B)(1). This issue also intersects with public health laws: see below Part III(C)(6). See also Caitlin R Proctor et al, ‘Wildfire Caused Widespread Drinking Water Distribution Network Contamination’ (2020) 2(4) *AWWA Water Science* e1183:1–14, 1–2.

¹⁷⁵ See JJ Shelley, TA Raadik and M Lintermans, *Summary of the 2019–20 Bushfire Impacts on Freshwater Fish and Emergency Conservation Response in South-Eastern Australia* (Report, August 2021) 22–4; McCormack, ‘Climate Change, Wildfires and Wetland Ecosystem Services’ (n 49) 443–4.

¹⁷⁶ See generally Bendall et al (n 133).

¹⁷⁷ But note that the intensity, frequency and timing of conservation burns are crucial considerations for maintaining desirable fire regimes and conserving focal habitats, ecological communities and ecosystems: see Gale and Cary (n 139) 802–3, 814. See also above Part III(B)(4) for a discussion on protected area laws.

¹⁷⁸ Andrew Dennis and Northern Bettong Recovery Team, *Recovery Plan for the Northern Bettong: Bettongia Tropic 2000–2004* (Report, 2001) 19 (action 1.3.1). The Queensland recovery plan was adopted by the Commonwealth government under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), and is available on the Commonwealth government’s website: ‘Recovery Plan for the Northern Bettong (Bettongia Tropic) 2000–2004’, *Department of Climate Change, Energy, the Environment and Water (Cth)* (Web Page, 10 October 2021) <<https://www.dcceew.gov.au/environment/biodiversity/threatened/recovery-plans/recovery-plan-northern-bettong-bettongia-tropica-2000-2004>>, archived at <<https://perma.cc/FUS8-HS98>>.

that implemented that recovery action has reiterated the value of actively introducing 'early season patchy burns' for the species' conservation.¹⁷⁹ Other legal instruments, such as the recovery plan for the critically-endangered NSW *Grevillea caleyi*, recommends the use of specific fire intervals, such as excluding fire in some circumstances, to avoid serious conservation losses.¹⁸⁰ Catastrophic bushfires complicate this conservation law context for land managers and fire agencies, including because fire suppression may cause greater ecological harm than bushfires themselves.¹⁸¹

Changing fire regimes can cause population declines and local extinctions, as with alpine ash forests in Victoria's highlands;¹⁸² exacerbate the impact of existing threats such as invasive predators¹⁸³ and habitat loss from land clearing;¹⁸⁴ and cause particularly severe impacts on 'fire naïve' species in sensitive ecosystems such as temperate rainforests and alpine peatlands.¹⁸⁵ The 2019–20 fire season is estimated to have affected more than three billion vertebrate animals, both directly by causing death and injury, and indirectly by, for example,

¹⁷⁹ Threatened Species Recovery Hub, *Saving the Endangered Northern Bettong with Fire Management* (Fact Sheet, September 2021) 4.

¹⁸⁰ This grevillea species is killed by fire and adversely affected by high fire frequency. Its recovery plan warns that 'fire-free intervals of less than 8–12 years will lead to local population extinctions': Department of Environment and Conservation (NSW), *Grevillea Caleyi R Br (Proteaceae) Recovery Plan* (Report, March 2004) 13. After being adopted by the Commonwealth on 11 April 2005, the plan expired in October 2015 and has not been replaced: see 'Grevillea Caleyi: Caley's Grevillea', *Department of Agriculture, Water and the Environment (Cth)* (Web Page) <http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=9683>, archived at <<https://perma.cc/FGW3-JT59>>.

¹⁸¹ See Dana M Backer, Sara E Jensen and Guy R McPherson, 'Impacts of Fire-Suppression Activities on Natural Communities' (2004) 18(4) *Conservation Biology* 937, 938; Michael P Dombeck, Jack E Williams and Christopher A Wood, 'Wildfire Policy and Public Lands: Integrating Scientific Understanding with Social Concerns across Landscapes' (2004) 18(4) *Conservation Biology* 883, 885.

¹⁸² David MJS Bowman et al, 'Abrupt Fire Regime Change May Cause Landscape-Wide Loss of Mature Obligate Seeder Forests' (2014) 20(3) *Global Change Biology* 1008, 1014.

¹⁸³ See Bronwyn A Hradsky, 'Conserving Australia's Threatened Native Mammals in Predator-Invaded, Fire-Prone Landscapes' (2020) 47(1) *Wildlife Research* 1, 2; Lauren Delaney, Julian Di Stefano and Holly Sitters, 'Mammal Responses to Spatial Pattern in Fire History Depend on Landscape Context' (2021) 36(3) *Landscape Ecology* 897, 897–8; Hugh W McGregor et al, 'Extraterritorial Hunting Expeditions to Intense Fire Scars by Feral Cats' (2016) 6 *Scientific Reports* 22559:1–7, 1.

¹⁸⁴ See generally Bendall et al (n 133).

¹⁸⁵ Dale G Nimmo et al, 'Welcome to the Pyrocene: Animal Survival in the Age of Megafire' (2021) 27(22) *Global Change Biology* 5684, 5687.

increasing competition for the little-remaining habitat, shelter and food.¹⁸⁶ In this context, fire refugia and areas of long-unburnt habitat are both increasingly rare and important for biodiversity,¹⁸⁷ though neither is prioritised in conservation laws. Statutory processes for listing and protecting species must become more efficient to rapidly recalibrate management priorities for the safeguarding of species populations and their habitats in burnt and unburnt areas.¹⁸⁸

3 *Climate Change Law*

Climate change law provides important legal context for bushfire management in Australia in four ways. First, rapid progress on Australia's international commitments to climate mitigation may reduce the impacts of future climate change, including from intensifying bushfire regimes.¹⁸⁹ Emissions from fire must be factored into Australia's greenhouse gas inventory.¹⁹⁰ The Intergovernmental Panel on Climate Change ('IPCC') technical guidance on greenhouse accounting allows an exemption for large, infrequent bushfires that are beyond human control. Countries may account for the year-to-year variability in emissions and post-fire sequestration, and report the long-term trend.¹⁹¹

The relevance of fire-based emissions means that improved fire practices can contribute to the mitigation effort. A methodology has been approved under Australia's Climate Solutions Fund that allows low-intensity savanna burning in northern Australia to create carbon credits equivalent to the emissions that

¹⁸⁶ Lily M van Eeden et al, *Impacts of the Unprecedented 2019–20 Bushfires on Australian Animals* (Report, November 2020) 7, 9, 39; Ward et al (n 29) 1321. Some groups such as insects are largely beyond the scope of conservation laws and fire impacts on them remain largely unknown: see Chris Dickman et al, *After the Catastrophe: A Blueprint for a Conservation Response to Large-Scale Ecological Disaster* (Report, January 2020) 3.

¹⁸⁷ Arjan JH Meddens et al, 'Fire Refugia: What Are They, and Why Do They Matter for Global Change?' (2018) 68(12) *BioScience* 944. See also Kelly M Dixon et al, 'More Long-Unburnt Forest Will Benefit Mammals in Australian Sub-Alpine Forests and Woodlands' (2019) 44(7) *Austral Ecology* 1150, 1159.

¹⁸⁸ Dickman et al (n 186) 9.

¹⁸⁹ Catastrophic bushfires can be categorised as climate disasters, given that they result from both natural climate variability and anthropogenic climate change: Rosemary Lyster, 'Climate Disaster Law: Does It Hold the Key to Dealing with Bushfires?' (2020) 64 *Law Society of NSW Journal* 68, 68; Intergovernmental Panel on Climate Change, *Managing the Risks of Extreme Events and Disasters To Advance Climate Change Adaptation: Special Report of the Intergovernmental Panel on Climate Change* (Report, 2012) 33.

¹⁹⁰ Ivar R van der Velde et al, 'Vast CO₂ Release from Australian Fires in 2019–2020 Constrained by Satellite' (2021) 597(7876) *Nature* 366, 369.

¹⁹¹ Eduardo Calvo Buendia et al, *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Overview* (Report, 2019) 14.

would otherwise derive from bushfires on these lands.¹⁹² Traditional owners can claim carbon credits equivalent to the emissions 'saved' by this technique, thus creating an incentive for 'good' fire management.¹⁹³

The promotion of forest carbon activities for carbon dioxide removal ('CDR') may have other important implications for bushfire.¹⁹⁴ Methodologies for measuring carbon removal assume the permanence of storage and therefore account for 'significant reversals' of carbon storage in areas affected by bushfire.¹⁹⁵ The Clean Energy Regulator must be notified of significant reversal events and a calculation of their impact will determine whether carbon credits must be relinquished.¹⁹⁶ Second, terrestrial 'nature-based' carbon removal approaches can themselves increase bushfire risk because they typically involve large-scale plantations that increase fuel load and place demands on water supply, and potentially constrain fire mitigation activities that adversely affect carbon storage.¹⁹⁷ This is a growing problem because large-scale deployment of CDR is a core assumption in recent IPCC reports and Australia is almost

¹⁹² Department of the Environment and Energy (Cth), *Savanna Fire Management: Carbon Farming Roadmap* (Report, December 2019) 7–8.

¹⁹³ The Clean Energy Regulator calculates emissions abatements using a government-approved methodology: *Carbon Credits (Carbon Farming Initiative — Savanna Fire Management — Emissions Avoidance) Methodology Determination 2018* (Cth) pt 4 div 2. It issues Australian carbon credit units under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) pt 2 and, prior to its automatic repeal under ch 3 pt 4 of the *Legislation Act 2003* (Cth), the *Carbon Credits (Carbon Farming Initiative) Regulations 2011* (Cth). The Commonwealth methodology has created new opportunities for cultural burning on Country in Northern Australia. One example is the establishment of an Aboriginal-owned, not-for-profit carbon farming business, established by Aboriginal traditional owners in the Northern Territory to support their engagement with the carbon industry: 'About Us', *Arnhem Land Fire Abatement* (Web Page) <<https://www.alfant.com.au/about-us>>, archived at <<https://perma.cc/WC89-RSGM>>; Corey JA Bradshaw et al, 'Brave New Green World: Consequences of a Carbon Economy for the Conservation of Australian Biodiversity' (2013) 161 *Biological Conservation* 71, 80.

¹⁹⁴ One such strategy is bioenergy with carbon capture and storage. This is the process of burning vegetation (which is absorbed in its growth cycle) to create bioenergy (replacing other forms of energy emissions), and capturing and storing the carbon dioxide produced in the process so that it is 'carbon-negative': Alexandre Babin, Céline Vaneeckhaute and Maria C Iliuta, 'Potential and Challenges of Bioenergy with Carbon Capture and Storage as a Carbon-Negative Energy Source: A Review' (2021) 146 *Biomass and Bioenergy* 105968:1–25, 2.

¹⁹⁵ Australian Government Clean Energy Regulator, *Reducing the Risk of Fire and Preserving Sequestered Carbon in Emissions Reduction Fund Vegetation Projects* (Report) 1–7.

¹⁹⁶ *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) ss 90–1.

¹⁹⁷ For example, young trees need more water and are more flammable in the first decade. See Australian Government Clean Energy Regulator (n 195), which provides that 'well planned and conducted prescribed burning will have a far lower impact on credited carbon stores over the life of the project than an uncontrolled bushfire. The same is likely to be said for most fire risk reduction activity': at 4.

certain to expand its reliance on these activities over coming decades.¹⁹⁸ Laws and policies will need to balance competing CDR priorities against bushfire risk mitigation and fire response.

Finally, climate laws in some jurisdictions require decision-makers to consider the impacts of climate change when making plans, policies and decisions in sectors that have bushfire implications. For example, ss 34–5 of the *Climate Change Act 2017* (Vic) require the preparation of adaptation action plans for the built and natural environments and for primary production, supporting adaptation-oriented planning for bushfire, among other things, in those sectors.

4 Common Law Liability Rules

Common law liability rules include actions in negligence and nuisance, each of which are frequently called into play in the context of bushfire litigation. Ordinary principles of negligence apply when determining whether someone can be held liable for damage caused by fire.¹⁹⁹ To establish negligence the plaintiff must establish that a duty of care exists, that the defendant failed to exercise reasonable care in breach of that duty, and that that failure caused the plaintiff's losses.²⁰⁰ It is not sufficient to simply demonstrate that a person caused or contributed to a fire that damaged property.²⁰¹ Rather, that person must have been negligent in causing the fire or in their response once it was alight.²⁰²

Case law confirms that a person who lights a fire *does* have a duty of care to avoid that fire causing harm.²⁰³ Government agencies, including fire services and the Australian Defence Force, are typically protected by statutory limitations on liability for hazard mitigation and fire management, provided

¹⁹⁸ Phillipa C McCormack, Jan McDonald and Kerryn A Brent, 'Governance of Land-Based Negative-Emission Technologies To Promote Biodiversity Conservation: Lessons from Australia' (2020) 10(2) *Climate Law* 123, 123–6.

¹⁹⁹ See *Burnie Port Authority v General Jones Pty Ltd* (1994) 179 CLR 520, 530–1 (Mason CJ, Deane, Dawson, Toohey and Gaudron JJ) ('*Burnie Port Authority*'). See, eg, *Civil Liability Act 2002* (NSW) s 35, which empowers a court to allocate liability among multiple 'concurrent wrongdoer[s]' based on their respective responsibility for the harm.

²⁰⁰ See *Jaensch v Coffey* (1984) 155 CLR 549, 585–6 (Deane J); *Strong v Woolworths Ltd* (2012) 246 CLR 182, 186 [3] (French CJ, Gummow, Crennan and Bell JJ).

²⁰¹ See *Burnie Port Authority* (n 199) 585–6 (McHugh J), citing *Hazelwood v Webber* (1934) 52 CLR 268, 277 (Gavan Duffy CJ, Rich, Dixon and McTiernan JJ); Michael Eburn, 'Proving the Ignition Source Does Not Prove Negligence', *Australian Emergency Law* (Blog Post, 23 December 2020) <<https://emergencylaw.wordpress.com/2020/12/23/proving-the-ignition-source-does-not-prove-negligence/>>, archived at <<https://perma.cc/ZW2C-UQP6>>.

²⁰² Eburn, 'Proving the Ignition Source Does Not Prove Negligence' (n 201), discussing *Burnie Port Authority* (n 199) 547 (Mason CJ, Deane, Dawson, Toohey and Gaudron JJ).

²⁰³ *Burnie Port Authority* (n 199) 547 (Mason CJ, Deane, Dawson, Toohey and Gaudron JJ).

members (whether employees or volunteers) act in good faith.²⁰⁴ These protections do not currently extend to landholders conducting fire hazard reduction burns on private property,²⁰⁵ despite a statutory obligation in every state and territory to manage fire hazards on private land.²⁰⁶ Case law has also established that firefighting agencies do not owe a duty of care to individuals who may be affected by a fire so it is not possible to sue for a failure to attend and protect private property.²⁰⁷ Given the growing emphasis on individual responsibility for fire hazards, Eburn and Cary have argued that governments should legislate to ensure that hazard reduction burns conducted in good faith, and in compliance with the terms of a valid permit, attract a statutory defence to negligence claims if the fire escapes and causes damage.²⁰⁸

Common law litigation may drive improvement in fire safety, but it is a blunt and imprecise tool. First, litigation is only worthwhile where a defendant can pay. Uninsured defendants will not be pursued and, where defendants are insured, it is the insurer and not the defendant who must meet the costs.²⁰⁹ Those costs may be passed to the pool of premium payers, but negligent defendants are not exposed to the full cost of the damage caused. Second, litigation may or may not result in a determination of where fault lies. For example, electricity companies have paid to compensate bushfire victims for fires that were allegedly caused by a fault or failure in electricity infrastructure,²¹⁰ an outcome that *should* speed up the adoption of strategies such as grounding powerlines, constructing micro-grids and implementing energy security measures such as

²⁰⁴ See *Rural Fires Act 1997* (NSW) s 128(1), providing immunity for acts done in good faith; *Defence Act 1903* (Cth) s 123AA.

²⁰⁵ Eburn and Cary (n 81) 1001; *Woodhouse v Fitzgerald* (2021) 104 NSWLR 475, 495–6 [81] (Basten JA), cited in Michael Eburn, ‘Verdict against Landowners for RFS Managed Controlled Burn Set Aside’, *Australian Emergency Law* (Blog Post, 9 April 2021) <<https://emergencylaw.wordpress.com/2021/04/09/verdict-against-landowners-for-rfs-managed-controlled-burn-set-aside/>>, archived at <<https://perma.cc/Y5M2-WP86>>.

²⁰⁶ For a detailed discussion of the relevant legal frameworks, see McDonald and McCormack (n 57) 144–52.

²⁰⁷ See, eg, *Warragamba Winery Pty Ltd v New South Wales* [No 9] [2012] NSWSC 701, [719], [734] (Walmsley AJ) (*‘Warragamba Winery’*); *Electro Optic Systems Pty Ltd v New South Wales* (2014) 10 ACTLR 1, 80–1 [340]–[342] (Jagot J, Murrell CJ agreeing at 7 [2], Katzmann J agreeing at 196–7 [740]) (*‘Electro Optic Systems’*). See also *Capital & Counties plc v Hampshire County Council* [1997] QB 1004, 1029–30 (Stuart-Smith LJ for the Court); *Hamcor Pty Ltd v Queensland* [2014] QSC 224, [3], [127], [155] (Dalton J) (*‘Hamcor’*).

²⁰⁸ Eburn and Cary (n 81) 1004.

²⁰⁹ See generally Michael Legg, ‘Kilmore East Kinglake Bushfire Class Action Settlement Distribution Scheme: Fairness, Cost and Delay Post-Settlement’ (2018) 44(3) *Monash University Law Review* 658.

²¹⁰ One example is the 2009 Kilmore East class action: see *ibid* 659–60.

backup power sources in hospitals.²¹¹ However, most of those claims have settled without electricity authorities admitting liability or a court making a finding of negligence or liability. Electricity companies can, and do, still deny fault and legal liability.²¹² Finally, even if it is possible to reduce risk and liability, the cost of taking action may exceed the potential liability and may not be tolerated by the community. For example, a consultation paper published by the Powerline Bushfire Safety Taskforce after the 2009 Black Saturday fires found that the community would not accept the increased electricity charges that would be required to bury high-risk power lines, nor would they tolerate deliberate decisions to disconnect power on high fire danger days.²¹³

Regulatory reforms are needed to complement what is a weak litigation imperative and to speed up the transition.²¹⁴ In recent years, electricity providers in the United States have sought to avoid potential liability by shutting down power supply in anticipation of catastrophic fires, triggering blackouts and brownouts.²¹⁵ For vulnerable communities and sectors such as health care, preemptive power outages to avoid liability may be just as harmful to life and health as a bushfire itself. Questions about the appropriate scope of common law liability for igniting and responding to bushfires in Australia, whether for corporations, military personnel or private landholders, must be considered in this broader regulatory, social and ethical context.

5 *Disaster Relief and Recovery*

Natural hazards such as bushfires only constitute a ‘disaster’ when they affect human communities in a way that exceeds the capacity of those communities

²¹¹ These are all technologies that have existed for some time and that, together, can contribute to reducing bushfire risks from electricity infrastructure to near-zero: Senate Select Committee on Agricultural and Related Industries, Parliament of Australia, *The Incidence and Severity of Bushfires across Australia* (Report, August 2010) 44.

²¹² *Rowe v AusNet Electricity Services Pty Ltd* [2015] VSC 232, [5]–[13], [31] (Emerton J); *Matthews v AusNet Electricity Services Pty Ltd* [2014] VSC 663, [32] (Osborn JA) (*Matthews*); Michael Eburn, ‘Bushfires: The Price We Pay for Electricity’, *Australian Emergency Law* (Blog Post, 20 May 2014) <<https://emergencylaw.wordpress.com/2014/05/20/bushfires-the-price-we-pay-for-electricity/>>, archived at <<https://perma.cc/U72P-HWLN>>.

²¹³ Powerline Bushfire Safety Taskforce, *Final Report* (Report, 30 September 2011) 8–11, 70–1.

²¹⁴ See generally Powerline Bushfire Safety Taskforce (n 213); Victorian Auditor-General’s Office, *Reducing Bushfire Risks: Independent Assurance Report to Parliament 2020–21* (Report, October 2020) (*Reducing Bushfire Risks*).

²¹⁵ Myanna Dellinger, ‘Electric Utility Wildfire Liability Reform in California’ (2019) 49(11) *Environmental Law Reporter* 11003, 11003.

to cope and recover.²¹⁶ The recommendations of inquiries into major fire events have tended to focus on policy and legal reforms to reduce bushfire risk and improve community and agency preparedness and emergency response for the next fire season.²¹⁷ There has been less focus on how best to support recovery for those who have already suffered in a disaster, and lost property or suffered personal injury or the loss of a loved one.²¹⁸ Emergency relief is critically important in the immediate aftermath of an extreme event,²¹⁹ but this relief is aimed only at providing funds for short-term accommodation and other necessities such as food and home clean-up, and at replacing certain damaged contents.²²⁰ Even with that limited focus, there is no guarantee that payments will be sufficient to cover those costs.²²¹

Access to support for disaster relief and recovery after extreme events such as bushfires depends on a complex range of factors, including whether state governments declare an area to be a 'disaster area', whether legal and policy thresholds are reached to qualify for access to state and Commonwealth financial assistance, and whether individual insurance policies are adequate and accessible.²²² States and territories hold primary responsibility for coordinating relief and recovery efforts, including financial assistance, though all states and territories have delegated some recovery responsibilities to local government.²²³

²¹⁶ Thus, while natural and human-caused *hazards* such as bushfires are inevitable, *disasters* are not: see Mami Mizutori, 'Reflections on the Sendai Framework for Disaster Risk Reduction: Five Years since Its Adoption' (2020) 11(2) *International Journal of Disaster Risk Science* 147, 147–9.

²¹⁷ Georgina Barnes and Jan McDonald, 'Bushfire Recovery through Class Action Litigation' (2021) 40(1) *University of Tasmania Law Review* 33, 34.

²¹⁸ *Ibid.*

²¹⁹ See, eg, Prime Minister of Australia, 'Boost for Bushfire Recovery' (Media Release, 11 May 2020). See also 2009 *Victorian Bushfires Royal Commission Final Report* (n 95) vol 1 ch 8.

²²⁰ See, eg, 'Disaster Relief and Support', *NSW Government* (Web Page, 2021) <<https://www.nsw.gov.au/disaster-recovery/disaster-relief-and-support>>, archived at <<https://perma.cc/GYQ3-43M7>>; 'Financial Assistance', *VicEmergency* (Web Page, 2021) <https://emergency.vic.gov.au/relief/#financial_assistance>, archived at <<https://perma.cc/BS92-MF8Q>>.

²²¹ See, eg, Paige Cockburn, 'Bushfire Financial Aid "a Slap in the Face" as Family Receives \$1,280 after Their Wyaliba Home Burned Down', *ABC News* (online, 17 January 2020) <<https://www.abc.net.au/news/2020-01-17/bushfire-recovery-financial-aid-too-little-too-late/11869252>>, archived at <<https://perma.cc/5293-TX68>>.

²²² Of course, recovery depends on far more than legal support, and requires access to initiatives such as support for mental and emotional health and wellbeing, community and family support structures, and long-term efforts to build hope for the future: see 2020 *Royal Commission Report* (n 1) 427 [21.1]; Christine Eriksen and Eliza de Vet, 'Untangling Insurance, Rebuilding, and Wellbeing in Bushfire Recovery' (2020) 59(2) *Geographical Research* 228, 237–8.

²²³ 2020 *Royal Commission Report* (n 1) 430 [21.17].

The Commonwealth government is also involved in disaster relief and recovery, supporting and implementing the *National Disaster Risk Reduction Framework*.²²⁴ The Commonwealth provides financial assistance to state and territory governments through its Disaster Recovery Funding Arrangements and cost-sharing arrangements, and to individuals under the *Social Security Act 1991* (Cth).²²⁵ Ad hoc funding may also be provided through Commonwealth grant payments to local governments and non-government organisations and through tax exemptions and concessions under Australia's tax laws,²²⁶ coordinated through the new National Recovery and Resilience Agency.²²⁷ The 2020 National Royal Commission recommended a greater focus beyond recovery funding including by providing, relevantly, more consistent guidance and greater capacity-building for local government through standing disaster recovery plans, and clarity about the different roles, relevant processes and thresholds for addressing community recovery needs.²²⁸

6 Public Health Law

Public health law is the body of legal powers held by and duties imposed on governments, healthcare providers, employers and others, to reduce health risks, such as air pollution from smoke haze, and improve mental and physical

²²⁴ *National Disaster Risk Reduction Framework* (n 7). The framework lists 'examples of sectors with a role to play in reducing disaster risk, including insurance, finance, investment, agriculture, energy, health and community services: at 20–1. This is the framework through which Australia implements its commitments under the *Sendai Framework for Disaster Risk Reduction 2015–2030*, GA Res 69/283, UN Doc A/Res/69/283 (3 June 2015): *National Disaster Risk Reduction Framework* (n 7) 6. See also 'Sendai Framework for Disaster Risk Reduction 2015–2030', *United Nations Office for Disaster Risk Reduction* (Web Page, 2015) <<https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>>, archived at <<https://perma.cc/9FZR-QCDT>>.

²²⁵ Provided that the responsible Commonwealth minister makes a determination that an event is a 'major disaster': *Social Security Act 1991* (Cth) s 1061KA(1)(c).

²²⁶ See, eg, *Income Tax Assessment Act 1936* (Cth) s 170B; *Income Tax Assessment Act 1997* (Cth) ss 30–45A, 30–46, 59–55, 59–60. See also 'Australian Disaster Relief Funds and Tax Deductible Gifts', *Australian Taxation Office* (Web Page, 29 July 2020) <<https://www.ato.gov.au/Non-profit/Getting-started/In-detail/Types-of-DGRs/Australian-disaster-relief-funds-and-tax-deductible-gifts/>>, archived at <<https://perma.cc/DAG7-EYTU>>.

²²⁷ A non-statutory body established in response to a recommendation of the *2020 Royal Commission Report* (n 1): 'About Us', *National Recovery and Resilience Agency* (Cth) (Web Page) <<https://recovery.gov.au/about-us>>, archived at <<https://perma.cc/6596-AK4C>>. The National Recovery and Resilience Agency will oversee, among other things, distribution of the National Bushfire Recovery Fund: '2019–20 Bushfires Support', *National Recovery and Resilience Agency* (Cth) (Web Page) <<https://recovery.gov.au/recovery-support/2019-20-bushfires>>, archived at <<https://perma.cc/Y5GJ-L2JK>>.

²²⁸ *2020 Royal Commission Report* (n 1) 427 [21.2]–[21.7], 436–9 [21.32]–[21.43].

health outcomes across the Australian population.²²⁹ Bushfire smoke is a major public health concern and impacts from smoke were perhaps the most significant health effects of the 2019–20 fires: approximately 11 million Australians were affected by poor air quality from smoke, with the Australian Capital Territory recording the worst air quality in the world in January 2020.²³⁰ The health impacts from smoke included respiratory and cardiovascular illness, poor mental health and premature death.²³¹ To reduce health impacts from smoke, public health laws operate alongside environmental laws for air pollution control²³² including by restricting when and how controlled fires should be lit and managed.²³³ State and territory regulators and public health officials must also conduct and report on air quality monitoring, set air quality standards²³⁴ and publish air quality information, public health alerts and advice.²³⁵

As bushfires increase in frequency and scale, smoke pollution and other health impacts associated with bushfires will also increase. Legal frameworks can facilitate planning and risk mitigation, and guide trade-offs at a domestic scale — for example, by guiding trade-offs between reducing bushfire risk (such as hazard reduction burning) and managing community health impacts

²²⁹ Lawrence O Gostin, 'A Theory and Definition of Public Health Law' (2007) 10(1) *Journal of Health Care Law and Policy* 1, 1. But note that specific employment contexts such as firefighting are governed by occupational health and safety laws: see below Part III(C)(10).

²³⁰ Senate Finance and Public Administration References Committee, *Lessons To Be Learned in Relation to the Australian Bushfire Season 2019–20* (Interim Report, 7 October 2020) 68 [4.9], 69 [4.13] ('*Lessons To Be Learned in Relation to the Australian Bushfire Season*').

²³¹ *2020 Royal Commission Report* (n 1) 311 [14.2]. Smoke from the 2019–20 bushfires is estimated to have resulted in an additional \$1.95 billion in health costs: at 313 [14.11]. See also Arriagada et al (n 27) 282.

²³² See above Part III(C)(2).

²³³ Implementing the *National Environment Protection (Ambient Air Quality) Measure 1998* (Cth) under the *National Environment Protection Council Act 1994* (Cth) s 7 and corresponding state legislation, which provides nationally agreed targets for regulating six key air pollutants, including particulate matter emitted from bushfires and controlled burning, and which requires increasingly stringent and legally binding targets to be developed for the future.

²³⁴ See, eg, Emergency Management Victoria, *Standard for Smoke, Air Quality and Community Health: Significant Fires with Fine Particles as the Primary Smoke Component of Health Concern* (Report, January 2021) 10.

²³⁵ Joshua C Hyde et al, 'Air Quality Policy and Fire Management Responses Addressing Smoke from Wildland Fires in the United States and Australia' (2017) 26(5) *International Journal of Wildland Fire* 347, 354; *2020 Royal Commission Report* (n 1) 314 [14.15]–[14.17]. National health arrangements and capabilities for national emergencies are coordinated under the *National Health Security Agreement* (Agreement, November 2011) and the *National Health Security Act 2007* (Cth). See also *NSW Bushfire Inquiry Final Report* (n 73) 238–9 (recommendations 34–5). States should publish information and advice in more consistent ways in order to avoid confusion: *Lessons To Be Learned in Relation to the Australian Bushfire Season* (n 230) 73 [4.31].

(including those arising from extended exposure to smoke).²³⁶ The recent catastrophic bushfires in Australia created smoke haze that travelled all the way around the Earth, thus highlighting a new challenge for public health law, policy and management that transcends national borders.²³⁷

7 Insurance Law

Insurance plays a crucial role in community resilience, providing important context at all stages of bushfire preparedness, response and recovery.²³⁸ For example, insurance laws influence potential and actual exposure to financial losses from fire, and high insurance premiums may influence where people can afford to build and live. Insurance can also affect hazard reduction activities including, for example, when high premiums prevent community organisations from conducting low-intensity cultural burns on Country.²³⁹ Legislation in each state and territory has redefined the scope of insurance products covering fire-related loss, to mandate the incorporation of loss and damage caused by firefighting agencies responding to a fire.²⁴⁰ Insurance plays a crucial role in recovery, determining the resources available to individuals to recover from bushfires, including by informing whether, where and how they can afford to (re)build.

²³⁶ See GJ Williamson et al, 'A Transdisciplinary Approach to Understanding the Health Effects of Wildfire and Prescribed Fire Smoke Regimes' (2016) 11(12) *Environmental Research Letters* 125009:1–11, 1–2.

²³⁷ Eric Kerr and Malini Sur, 'Australia's Bushfire Smoke Is Lapping the Globe, and the Law Is Too Lame To Catch It', *The Conversation* (online, 24 January 2020) <<https://theconversation.com/australias-bushfire-smoke-is-lapping-the-globe-and-the-law-is-too-lame-to-catch-it-130010>>, archived at <<https://perma.cc/LTA4-WHPQ>>.

²³⁸ In Australia there is 'no specific insurance for catastrophic losses', which is 'particularly problematic' given the nation's growing exposure to events such as extreme bushfires: Rachel Anne Carter, 'Wild Fires: The Legal Regulatory System of Insurance and Emergency Services Funding' (2011) 14 *Southern Cross University Law Review* 75, 75. See also Kate Booth and Stewart Williams, 'Is Insurance an Under-Utilised Mechanism in Climate Change Adaptation? The Case of Bushfire Management in Tasmania' (2012) 27(4) *Australian Journal of Emergency Management* 38, 40–4.

²³⁹ See, eg, Ben Collins, 'Indigenous Rangers in WA North Priced Out of Bushfire Prevention by Insurance Price Jump', *ABC News* (online, 1 February 2021) <<https://www.abc.net.au/news/2021-02-01/indigenous-rangers-kimberley-bushfire-management/13090088>>, archived at <<https://perma.cc/WK78-7W4X>>.

²⁴⁰ That is, if a property is insured for fire-related damage, that insurance will extend to cover damage that a firefighting agency causes in the process of fighting the fire, including knocking down a fence or cutting containment lines: see, eg, *Rural Fires Act 1997* (NSW) s 28(1). See generally Michael Eburn, 'The Effect of s 28 of the Rural Fires Act 1989 (NSW)', *Australian Emergency Law* (Blog Post, 25 January 2021) <<https://emergencylaw.wordpress.com/2021/01/25/the-effect-of-s-28-of-the-rural-fires-act-1989-nsw/?>>, archived at <<https://perma.cc/BBT9-SC7Q>>.

Calculating home and contents insurance is complex, and miscalculations are an important cause of underinsurance,²⁴¹ alongside sharp increases in the cost of insurance premiums.²⁴² The Australian Prudential Regulatory Authority has argued that infrastructure upgrades, up-to-date hazard mapping, stronger building codes and land use rezoning are essential to achieving more affordable insurance premiums.²⁴³ However, these kinds of reforms are unlikely to be sufficient without clear, accurate and timely information to home owners and occupiers about their exposure and vulnerability to bushfires.²⁴⁴

Access to private insurance may be conditional on compliance with building codes or other safeguards.²⁴⁵ There are fewer opportunities to reduce insurance premiums by managing fire risks well after a development is complete, though the NSW Government is investigating opportunities for households to reduce their insurance premiums by demonstrating that they have mitigated their bushfire risk to a particular, defined standard.²⁴⁶ Rising insurance costs are particularly challenging, and potentially inequitable, for tenants needing contents cover.

8 *Property Law and Tenancy Rights and Obligations*

Private property rights provide a crucial backdrop to most land-related activities, creating the expectation (though not necessarily the reality) that a private landholder has authority to choose how they will manage their land. Statutes in each state and territory have moderated the extent to which this is true, including by imposing duties to manage fuel loads and fire hazards on private land,

²⁴¹ See de Vet and Eriksen, 'When Insurance and Goodwill Are Not Enough' (n 90) 35.

²⁴² The number of households that are underinsured or uninsured has risen sharply in recent years: Roxanne Libatique, 'Will Insurance Soon Be Out of Reach in Australia?', *Insurance Business Australia* (online, 3 March 2021) <<https://www.insurancebusiness-mag.com/au/news/breaking-news/will-insurance-soon-be-out-of-reach-in-australia-248039.aspx>>, archived at <<https://perma.cc/UWM2-PBYZ>>.

²⁴³ Ibid.

²⁴⁴ See de Vet and Eriksen, 'When Insurance and Goodwill Are Not Enough' (n 90) 45. See also Chloe H Lucas and Kate I Booth, 'Privatizing Climate Adaptation: How Insurance Weakens Solidaristic and Collective Disaster Recovery' (2020) 11(6) *WIREs Climate Change* e676:1–14, 1.

²⁴⁵ See John McAneny et al, 'Government-Sponsored Natural Disaster Insurance Pools: A View from Down-Under' (2016) 15 *International Journal of Disaster Risk Reduction* 1, 6–7. The long-term financial sustainability of such schemes is also a challenge in the face of more severe extreme weather events increasing the number of claims: see generally Ruth Biggs, 'Paying for Disaster Recovery: Australia's NDRRA and the United States' NFIP' (2012) 27(2) *Australian Journal of Emergency Management* 26.

²⁴⁶ The partnership includes the Insurance Council of Australia and has been established to implement a recommendation made by the NSW Government in the *NSW Bushfire Inquiry: March Progress Report* (n 73) 26.

and empowering authorised officers, such as state fire agencies or a local council, to require certain bushfire mitigation works on private land.²⁴⁷ For example, authorised officers have the power to enter private land to manage or remove fire hazards and undertake any other works required under a notice, to investigate the suitability of land for a proposed fire trail or assess the status of a registered fire trail, and to construct or maintain a fire trail.²⁴⁸

Important issues about private property boundaries, rights and obligations in the context of bushfires still remain. For example, it is unclear how responsibility for fire hazard reduction and management should be allocated between owners and occupiers.²⁴⁹ The extent to which a tenant can be held responsible for failing to manage fire risks on leased land is also unclear. This issue becomes even more complex if, in order to protect a dwelling, easements or covenants are placed over adjoining land to facilitate necessary vegetation management for property protection.²⁵⁰ As bushfires become more frequent and intense, the extent to which responsibility for damage caused by a bushfire can be traced back to a particular landowner or occupier will continue to be complex and hotly contested.²⁵¹

9 Social Security and Consumer Lending Laws

The Commonwealth government has primary responsibility for social security laws, which include short-term and one-off payments for eligible individuals and families affected by bushfires (discussed briefly in Part III(C)(5) above). Social security, insurance and consumer lending laws interact closely in the context of financial hardship and recovery, post-bushfire. Commonwealth social security payments under the *Social Security Act 1991* (Cth) include the one-off Disaster Recovery Payment and the Disaster Recovery Allowance, which may be paid fortnightly for up to 13 weeks.²⁵² Both payments are means-tested and eligible individuals must have been affected by a 'major disaster'.²⁵³ This

²⁴⁷ See above Part III(A); McDonald and McCormack (n 57) 144–6.

²⁴⁸ See, eg, *Rural Fires Act 1997* (NSW) pts 3B–4. See especially s 62ZP. For more on these obligations, see above Part III(A).

²⁴⁹ But note that the *Rural Fires Act 1997* (NSW) s 66 empowers hazard management officers to issue notices to the owner or occupier of land to undertake bushfire hazard reduction work.

²⁵⁰ For example, the maintenance of Asset Protection Zones: see above n 83 and accompanying text.

²⁵¹ See Eburn and Cary (n 81) 1000; McDonald and McCormack (n 57) 138–40.

²⁵² *Social Security Act 1991* (Cth) pts 2.23B–2.24.

²⁵³ *Ibid* ss 1061KA(1)(c), 1061K(1)(c). Section 23 defines 'major disaster' as a 'disaster in respect of which a declaration is in force'. The Act also empowers the Minister to make a determination of a 'major disaster' by reference, among other things, to the number of people affected and the extent to which the disaster is 'unusual': ss 36(2)(a)–(b).

means that access is contingent on the responsible minister making a determination that a major disaster exists.²⁵⁴ These schemes are intended to streamline access to social security payments at a time when applicants are under enormous emotional strain, but when the process of accessing the payments is complex and slow, that process itself may re-traumatise bushfire victims.²⁵⁵

Communities and individuals often suffer severe financial hardship after a bushfire, including because they have lost homes, businesses, family and access to employment. The immediate causes of financial hardship can compound after a bushfire, when bushfire victims may fall behind in paying bills, rent and mortgages. Laws that regulate consumer lending can be crucial in this context, protecting vulnerable people from predatory lenders and 'debt-traps'.²⁵⁶ Effective, efficient and equitable access to financial support after a bushfire is a crucial component of resilience-building and a fundamental driver for community and individual decision-making, and the absence of appropriate financial supports may undermine resilience in both the short- and long-term.

10 *Employment and Work Health and Safety Laws*

Employment laws impose obligations on employers, including fire agencies, to meet national employment standards, such as salaries and leave entitlements. WH&S laws supplement these obligations by requiring that employers ensure, as far as is reasonably practicable, the health and safety of employees and independent contractors, including by minimising risks from their working environment.²⁵⁷

Employment and WH&S laws also provide important legal context for volunteer firefighters during fire seasons. Individuals registered as volunteers with a recognised emergency management body — such as state emergency services,

²⁵⁴ See, eg, *Social Security (Australian Government Disaster Recovery Payment — South Australia Bushfires) Determination (No 7) 2020* (Cth) s 4.

²⁵⁵ See Alexandra Beech, Stephanie Dalzell and Jack Snape, 'Bushfire Recovery Costs Start at \$2 Billion but Government Assistance Can't Pay the Bills', *ABC News* (online, 6 January 2020) <<https://www.abc.net.au/news/2020-01-06/scott-morrison-bushfire-recovery-bill/11844096>>, archived at <<https://perma.cc/32HX-AGVQ>>.

²⁵⁶ Natalie Vella, Meghan Malone and Angela Lauman, 'Protecting the Environment and Fostering Financial Fairness: Recovering from the 19–20 Bushfires' [2020] (May) *Ethos: Law Society of the Australian Capital Territory Journal* 12, 14.

²⁵⁷ There are different rules in each state and territory but most align with the Safe Work Australia, *Model Work Health and Safety Bill* (Model Bill, 9 December 2019), discussed in Elizabeth Shi, 'What Employers Need To Know: The Legal Risk of Asking Staff To Work in Smokey Air', *The Conversation* (online, 13 January 2020) <<https://theconversation.com/what-employers-need-to-know-the-legal-risk-of-asking-staff-to-work-in-smokey-air-129432>>, archived at <<https://perma.cc/L2D9-8TWM>>. See also *NSW Bushfire Inquiry Final Report* (n 73) xv–xvi (recommendations 37–44).

the Royal Society for the Prevention of Cruelty to Animals, or the Country Fire Authority — are entitled to request community service leave from their employer.²⁵⁸ The 2019–20 fire season demonstrated the risks of Australian fire-fighting agencies relying so heavily on volunteers, with some volunteers away from their usual employment for many months and businesses struggling to operate without key staff, prompting calls for new employment models and surge workforces.²⁵⁹

The 2019–20 fire season highlighted a broader dimension to the intersection between bushfires and WH&S law, with some employers directing their workers to stay at home to avoid the health risks of working in smoky air.²⁶⁰ During the worst of the smoke haze in eastern Australian cities in early 2020, outdoor workers would have been exposed to hazardous air quality and low visibility. WH&S laws will likely require adjustments to work conditions in these circumstances, potentially requiring the provision of protective equipment such as masks and the rescheduling of work.²⁶¹ Whether office workers had access to a safer working environment at home was also a live question, and both WH&S and equity issues may arise for those workers who do not have access to home air conditioners or air filters in conditions of heavy bushfire smoke.

Other issues in employment law also arise. Employees may stay away from work to defend their property or if they are required to evacuate. This raises issues of whether employees will be forced to take annual leave or face dismissal if they cannot attend work. This will be particularly acute if the employee's home is impacted by a fire, but their workplace is not.

²⁵⁸ The employee's award may contain specific provisions about community service leave, including whether that leave will be paid or unpaid: 'Employment Entitlements during Natural Disasters and Emergencies', *Fair Work Ombudsman (Cth)* (Web Page) <<https://www.fairwork.gov.au/tools-and-resources/fact-sheets/rights-and-obligations/employment-entitlements-during-natural-disasters-and-emergencies>>, archived at <<https://perma.cc/7LWA-8GCC>>.

²⁵⁹ Blythe McLennan, Joshua Whittaker and John Handmer, 'The Changing Landscape of Disaster Volunteering: Opportunities, Responses and Gaps in Australia' (2016) 84(3) *Natural Hazards* 2031, 2033–4, 2037–43. See also Michelle Cull, 'Value beyond Money: Australia's Special Dependence on Volunteer Firefighters', *The Conversation* (online, 23 January 2020) <<https://theconversation.com/value-beyond-money-australias-special-dependence-on-volunteer-firefighters-129881>>, archived at <<https://perma.cc/V4US-W787>>.

²⁶⁰ Highlighting overlaps and permeability across Ring 3, when smoke causes air pollution, it may trigger obligations under environmental laws, public health laws, and WH&S laws: see Andrew Greene, Kate Midena and Jordan Hayne, 'Canberra Air Quality Still Poor as Smoke Forces Home Affairs and Border Force To Close Doors', *ABC News* (online, 5 January 2020) <<https://www.abc.net.au/news/2020-01-05/nsw-fires-blanket-canberra-in-thick-smoke/11841546>>, archived at <<https://perma.cc/A5LY-ERF7>>.

²⁶¹ See Shi (n 257).

Many of the areas of law set out in Ring 3 are the subject of remarkably little bushfire-specific research in Australia. Having set out the 'anatomical components' of this legal context for bushfires, it is clear that this analysis has barely scratched the surface of the challenge of future bushfire regimes and the ways that these laws interact across the legal framework depicted in Figure 1. As the climate changes, compounding extreme events will complicate health and other community impacts from bushfires, complicating the possibility of recovery, the longevity of relief payments and the adequacy of insurance coverage. There is a clear need to develop our understanding of the legal implications of these changes across each of the categories of law in Ring 3.

D *Institutional Context (Ring 4)*

The three areas of law set out in Ring 4 are small in number but extremely broad in scope. These include the rules that govern litigation; the complex institutional arrangements for coordinating emergency management across Australia; and the constitutional basis for the allocation of power to make laws for bushfires, declare emergencies and allocate resources to fire planning, response and recovery. Each of these three areas of law intersect in a multitude of ways with the more-specific laws introduced in the other three rings in Figure 1.

1 *Litigation Rules*

Long-term recovery from bushfire requires access to funding to repair, rebuild, or relocate to safer areas. It is unrealistic to expect the public purse to compensate private individuals for bushfire losses. Private insurance is the primary source of coverage for bushfire losses²⁶² but, as noted above, un-insurance and underinsurance are rife.²⁶³ Litigation has therefore been a critical means by which to fill gaps in insurance coverage and secure the funds necessary to recover from fire.²⁶⁴ As Eburn and Dovers note, 'significant fire events such as the Black Saturday fires now trigger litigation almost before the fires are extinguished'.²⁶⁵

²⁶² See *2020 Royal Commission Report* (n 1) 417 [20.6]–[20.7].

²⁶³ See *ibid* 418 [20.14]. See also above Part III(C)(7).

²⁶⁴ The frequency has increased from one case every 10.4 years (from 1925–77) to one case every 3.8 years (from 1978–2009): Michael Eburn, 'Trends in Australian Wildfire Litigation' (Slide Deck, Wildland Fire Litigation Conference, 1 May 2015) 2.

²⁶⁵ Michael Eburn and Stephen Dovers, *Litigation and Australian Bushfires* (Information Sheet, 2011) <https://www.bushfirecrc.com/sites/default/files/managed/resource/2011_poster_michael_eburn_stephen_dovers.pdf>, archived at <<https://perma.cc/9Q6V-RZXY>>. Since the Black Saturday bushfires, actions have been brought against four energy companies, the State of Victoria and the Country Fire Authority: see below nn 270–4 and accompanying text.

The target of bushfire litigation has changed over time.²⁶⁶ In early litigation, the defendant was commonly the landowner or occupier. While some actions against parties who start fires persist,²⁶⁷ the net has been cast widely in recent years: any party that contributed to damage, be they public land managers, energy infrastructure owners or firefighters, has been joined.²⁶⁸ Claims are based principally in negligence, alleging mismanagement of a controlled burn that escapes²⁶⁹ or failure to maintain electricity infrastructure.²⁷⁰ Many are single plaintiff actions, but larger fire events can produce unmanageable volumes of litigation. The 1983 ‘Ash Wednesday’ bushfires, for example, resulted in over 400 individual writs.²⁷¹ It is therefore unsurprising that class actions for bushfire

²⁶⁶ See Michael Eburn, ‘Do Australian Fire Brigades Owe a Common Law Duty of Care? A Review of Three Recent Cases’ (2013) 3(1) *Victoria University Law and Justice Journal* 55, 55–6; Tim Tobin and Andrew Fraatz, ‘Bushfire Class Actions’ (2012) 109 *Precedent* 4, 5–6. See generally *Rylands v Fletcher* (1868) LR 3 HL 330.

²⁶⁷ See, eg, *Herridge v Electricity Networks Corporation [No 4]* [2019] WASC 94, [1]–[11] (Le Miere J). See also Katri Uibu, ‘Dunalley Fire Civil Action Case Hears Campfire in Stump Allegedly Led to 2013 Disaster’, *ABC News* (online, 27 April 2021) <<https://www.abc.net.au/news/2021-04-27/dunalley-fires-2013-class-action-reaches-court/100097528>>, archived at <<https://perma.cc/EMR3-WTYQ>>.

²⁶⁸ Eburn and Dovers, *Litigation and Australian Bushfires* (n 265), noting that no actions against fire agencies have been successful: see, eg, *Warragamba Winery* (n 207) [1905] (Walmsley AJ); *Electro Optic Systems* (n 207) 7 [2] (Murrell CJ), 155–6 [522] (Jagot J), 197 [742]–[743] (Katzmann J); *Myer Stores Ltd v State Fire Commission* [2012] TASSC 54, [43], [52] (Blow J); *Hamcor* (n 207) [233], [370] (Dalton J). The net may extend further to alert system operators in the event of a significant failure: see ‘Alert SA Scrapped by State Government after Failure during Catastrophic Fire Conditions’, *ABC News* (online, 8 January 2018) <<https://www.abc.net.au/news/2018-01-08/alert-sa-app-scrapped-after-failing-during-serious-bushfire/9310520>>, archived at <<https://perma.cc/QYP4-ZZFN>>.

²⁶⁹ For example, a class action is being considered against firefighters for failing to control a small fire in the Guy Fawkes National Park which grew to be uncontrollable during the summer of 2019–20: Institute of Foresters of Australia and Australian Forest Growers, Submission to Royal Commission into National Natural Disaster Arrangements (April 2020) 25.

²⁷⁰ See, eg, *Mercieca v SPI Electricity Pty Ltd* [2012] VSC 204, [4]–[8] (Emerton J); *Matthews* (n 212) [7]–[9] (Osborn JA). See generally *Lenehan v Powercor Australia Ltd* [2018] VSC 579. Given the rapid advances in attribution science and the weight of evidence that climate change is increasing catastrophic fire conditions, traditional forms of litigation are increasingly likely to be supplemented by climate-related litigation: see, eg, Canadell et al (n 18) 8. See also *Bushfire Survivors for Climate Action Inc v Environment Protection Authority* [2021] NSWLEC 92, in which the NSW Land and Environment Court ordered the NSW Environment Protection Authority ‘to develop environmental quality objectives, guidelines and policies to ensure environmental protection from climate change’, including climate-driven changes to bushfire regimes: at [149] (Preston CJ).

²⁷¹ There were writs issued against the Electricity Trust of South Australia: see, eg, *Dunn v Electricity Trust of South Australia* (1985) 122 LSJS 201, 201–2 (Zelling J). Writs were also issued against a local council and electricity contractor: see, eg, *Casley-Smith v FS Evans & Sons Pty Ltd [No 5]* (1988) 67 LGRA 108, 154 (Olsson J); *Leslie v FS Evans & Sons Pty Ltd* (1988) 65 LGRA 168, 170 (Olsson J).

losses are also becoming more common. Australia's largest class action settlement (almost \$500 million) arose from the Black Saturday fire.²⁷² Although that figure is large, the benefit to individuals was insufficient to meet their losses.²⁷³ The Kilmore East class action had more than 5,000 registered group members, comprising 1,700 personal injury claims, 4,000 claims for uninsured property and 5,000 claims for insured property.²⁷⁴ While personal injury claimants were expected to receive about 65% of their total claims, those claiming for property and economic losses would only obtain about 33% of their total claims.²⁷⁵ Litigation may be a critical means by which to fill gaps in insurance coverage but is ineffective in securing the funds necessary to recover from fire.

The growth in bushfire actions in general, and class actions in particular, demands engagement with the procedural rules governing such litigation, the common law principles upon which liability may be based, and the interaction of those principles with any statutory protections or immunities. Litigation is an imperfect tool — it is expensive and takes years, and fear of it may stifle innovation and adaptation. While the rules governing class actions may sometimes simplify the experience of litigation for a claimant, they can also add cost and complexity and result in a lower payout overall. Factors influencing success might also be considered arbitrary, depending on how a fire started or spread. While the prospects of success are low where no-one is to blame or if they have some form of statutory protection, alternatives to litigation for resourcing bushfire recovery, including the insurance arrangements described above, are also problematic.

2 *Governing Emergency Management Coordination*

The institutional context for emergency management is broader than the legal instruments establishing the form, powers and responsibilities of the various emergency services. As we discussed in relation to Rings 1 and 3, laws for fire and emergency management include the creation of rural or bushfire brigades

²⁷² Vince Morabito, *An Empirical Study of Australia's Class Action Regimes: The First Twenty-Five Years of Class Actions in Australia* (Report No 5, July 2017) 18.

²⁷³ *Matthews* (n 212) [432]–[433] (Osborn JA).

²⁷⁴ Vince Morabito and Jarrah Ekstein, 'Class Actions Filed for the Benefit of Vulnerable Persons: An Australian Study' (2016) 35(1) *Civil Justice Quarterly* 61, 84. See also Maurice Blackburn Lawyers, *Kilmore East — Kinglake & Murrindindi — Marysville Black Saturday Class Action Settlement Administrations* (Final Report, 2018) 7. The money was first used to pay lawyers' fees (\$60 million) and then to meet claims for damages, with 37.5% of the fund allocated to meeting claims for personal injury or death, and the remainder allocated to address property damage and economic losses: Legg (n 209) 660–1.

²⁷⁵ Legg (n 209) 661. When taking into account insurance, the average claimant would actually obtain between 33% and 65% of their total losses.

and emergency services agencies, and the powers of these agencies to manage fire hazards and respond to bushfires.²⁷⁶ Broader institutional arrangements coordinate emergency management across jurisdictions and emergencies (such as flood, fire and storms), including through the Australian Inter-Agency Incident Management System ('AIIMS'). AIIMS is adopted by all Australian fire, emergency and land management agencies, and is predicated on the assumption that there is a single incident controller who has 'overall management of the incident and overall responsibility for the management of resources allocated for the resolution of the emergency'.²⁷⁷ During actual emergencies the boundary between the response to the fire and broader emergency management roles is not always clear. Jurisdictions do, however, have plans in place to escalate the management of an emergency to allow emergency managers to deal with the large scale while incident controllers manage the immediate impact.

Cross-state and territory and national cooperative emergency management arrangements support information and resource-sharing — such as firefighters and incident management teams — including through the coordination role played by the Australian and New Zealand National Council for Fire and Emergency Services.²⁷⁸ While these coordination arrangements do not necessarily find expression in legal instruments, they may be formalised through policies, agreements and, for example, cross-border memoranda of understanding.²⁷⁹ The Commonwealth government also coordinates nationally significant resources such as some aerial firefighting equipment and assets provided under

²⁷⁶ These laws also establish emergency management and recovery planning committees and statutory officers: see, eg, *Fire and Rescue NSW Act 1989* (NSW) ss 74B–74C; *Rural Fires Act 1997* (NSW), establishing the NSW Rural Fire Service: s 8; and the *Bush Fire Coordinating Committee: s 46*. See also *Bush Fires Act 1954* (WA), providing for the establishment of 'bush fire brigades': s 41; and allowing for the designation of a 'Chief Bush Fire Control Officer': s 38A.

²⁷⁷ Emergency Management Victoria, *Fundamentals of Emergency Management (Class 1 Emergencies)* (Report, February 2015) 29 [7.2.3].

²⁷⁸ The Australian and New Zealand National Council for Fire and Emergency Services has members from emergency and land management agencies from the Commonwealth, every state and territory, and New Zealand, though it has no direct role in delivering emergency services: National Council for Fire and Emergency Services, 'AFAC is the Australian and New Zealand National Council for Fire and Emergency Services', *Who We Are* (Web Page, 2017) <<https://www.afac.com.au/auxiliary/about/us>>, archived at <<https://perma.cc/8B5M-AWJ2>>. The AIIMS is the nationally recognised system of incident management for the nation's fire and emergency service agencies: National Council for Fire and Emergency Services, *Australasian Inter-Service Incident Management System, AIIMS* (Web Page, 2017) <<https://www.afac.com.au/initiative/aiims>>, archived at <<https://perma.cc/SFA2-UUGQ>>.

²⁷⁹ See *NSW Bushfire Inquiry Final Report* (n 73) 134; *NSW Bushfire Inquiry: March Progress Report* (n 73) 15.

international cooperative arrangements,²⁸⁰ and maintains Defence Assistance to the Civil Community arrangements, under which states can request Commonwealth assistance in a disaster.²⁸¹

3 Fiscal Arrangements and the Constitutional Division of Power

Fiscal arrangements reflect government priorities and underpin government and community responses to bushfires. The allocation of public funding is relevant to almost every other aspect of law listed in Figure 1 and can determine the capacity and responsiveness of government agencies, statutory officers and other bodies. For example, state governments fund emergency response agencies such as fire services, and state and local recovery costs post-fire can, in some cases, be claimed back under national disaster relief arrangements.²⁸² Future reform to fiscal allocations may need to pay particular attention to issues of equity and capacity across tiers of government, particularly for those local governments with a low density of ratepayers but high exposure to bushfire risks, because changing fire regimes will increase the cost of activities such as fire hazard reduction through the land use planning system.²⁸³

Ring 4 of Figure 1 also recognises the important institutional context provided by the *Constitution*, which allocates power between three branches of government. For example, the judiciary sets standards of behaviour and scrutinises decisions and actions of the executive through litigation,²⁸⁴ while some bushfire laws are created by the legislature through legislation.²⁸⁵ The executive has a central role, comprising fire agencies, government land managers, bushfire planners and other public decision-makers, as well as broader accountability mechanisms including standing bodies that review bushfire planning, spending, monitoring and reporting (such as auditors-general,²⁸⁶ ombudsmen

²⁸⁰ Through Emergency Management Australia, a non-statutory body within the Department of Home Affairs: see 'Emergency Management', *Department of Home Affairs (Cth)* (Web Page, 19 January 2022) <<https://www.homeaffairs.gov.au/about-us/our-portfolios/emergency-management/resources>>, archived at <<https://perma.cc/U44V-7G2L>>.

²⁸¹ See, eg, *2020 Royal Commission Report* (n 1) 194–5 [7.43]–[7.45].

²⁸² Including by drawing on emergency services levies imposed in local council rates: see above Part III(C)(5).

²⁸³ Emergency services levies can be allocated to local governments to perform their obligations in relation to bushfire, among other things: see, eg, *Fire and Emergency Services Act 1998* (WA) pt 6A divs 2, 5, though there is no guarantee that the funding will cover all relevant costs.

²⁸⁴ See above Parts III(C)(4), III(D)(1).

²⁸⁵ See, eg, *Rural Fires Act 1997* (NSW).

²⁸⁶ *Reducing Bushfire Risks* (n 214) 1.

and state coroners),²⁸⁷ and ad hoc review bodies such as royal commissions.²⁸⁸

The *Constitution* also governs the allocation of powers between the different tiers of government. In the absence of an explicit head of power under the *Constitution* to legislate in relation to domestic emergencies,²⁸⁹ responsibility for developing and reforming laws about bushfire preparation, response and recovery remains primarily with state and territory governments. The *Constitution* is also silent on the role of local government, which is established under state legislation, though local governments play many important roles in relation to bushfire.²⁹⁰ For example, in many jurisdictions, local governments assess bushfire hazards on private land and issue and enforce hazard reduction notices, alongside fire agencies.²⁹¹ State and local governments are also substantial land managers themselves, responsible for fire planning and response in public protected areas and on Crown land.²⁹²

²⁸⁷ For example, the NSW Coroners Court is conducting an inquiry ‘focussing on events particular to each death and fire rather than the large scale themes extensively canvassed in other investigations already reported’, with public hearings expected to resume on 9 May 2022: ‘NSW Bushfires Coronial Inquiry’, *Coroners Court New South Wales* (Web Page, 4 July 2022) <<https://www.coroners.nsw.gov.au/coroners-court/upcoming-inquests/nsw-bushfires.html>>, archived at <<https://perma.cc/DEF9-GGTC>>. See Michael Eburn and Stephen Dovers, ‘Learning Lessons from Disasters: Alternatives to Royal Commissions and Other Quasi-Judicial Inquiries’ (2015) 74(4) *Australian Journal of Public Administration* 495, 497.

²⁸⁸ See generally 2020 *Royal Commission Report* (n 1).

²⁸⁹ For a detailed analysis on whether the Commonwealth has executive power to respond to catastrophic natural disasters, see generally Michael Eburn, Cameron Moore and Andrew Gissing, *The Potential Role of the Commonwealth in Responding to Catastrophic Disasters* (Report No 530, 6 May 2019).

²⁹⁰ For example, local governments have primary (though not sole) responsibility for land use planning and, in some jurisdictions, for vegetation clearing and management. However, in NSW, regional local land services bodies have responsibility for land clearing approvals in rural areas: *Local Land Services Act 2013* (NSW) pt 5A divs 3, 6. For more on the role of local governments, see above Parts III(B)(1)–(2).

²⁹¹ For example, local government and the Tasmanian Fire Service have overlapping responsibility for issuing bushfire hazard reduction notices in Tasmania: see Environmental Defenders Office, Submission on the Draft Bushfire Mitigation Measures Bill 2020 (28 October 2020) 32. However, in NSW, it is the responsibility of the Rural Fire Service (not local government) to assess bushfire hazards on private land: *Rural Fires Act 1997* (NSW) ss 65A, 66–9.

²⁹² Outside of Antarctica, the Commonwealth government manages just ten protected areas (seven national parks and three botanical gardens), including on the Commonwealth offshore territories of Norfolk Island, Christmas Island and Pulu Keeling: see ‘CAPAD 2020’, *Department of Climate Change, Energy, the Environment and Water (Cth)* (Web Page, 3 October 2021) <<https://www.awe.gov.au/agriculture-land/land/nrs/science/capad/2020>>, archived at <<https://perma.cc/8QWV-P2MC>>.

Decades of post-disaster inquiries have recommended a more visible and proactive Commonwealth presence in emergency situations,²⁹³ including to improve national coordination and overcome fragmented emergency responses.²⁹⁴ In response, the Commonwealth Parliament legislated the *National Emergency Declaration Act 2020* (Cth), empowering the Prime Minister to make a 'national emergency declaration'²⁹⁵ if they are satisfied that an emergency has caused, is causing or is likely to cause, nationally significant harm that either affects Commonwealth interests or is of sufficient scale or severity to justify a national declaration.²⁹⁶ The Prime Minister must consult with relevant states and territories where practicable, unless they requested the declaration.²⁹⁷ The effect of a declaration is that the Prime Minister can compel Commonwealth entities to provide certain information relevant to the emergency,²⁹⁸ and vary administrative requirements in other Commonwealth legislation to streamline response and recovery processes,²⁹⁹ though this new power does little to improve the capacity of the Commonwealth government to provide national coordination and leadership in disaster situations.

Despite purporting to address calls for better national coordination, this new legislation focuses only on the power to declare a national emergency and fails to address long-running coordination issues between states and territories

²⁹³ These recommendations were reiterated by the Royal Commission into National Natural Disaster Arrangements. Of the 24 chapters in its final report, nine focus explicitly on the role of the national government and the need for greater coordination (including the first six substantive chapters: see generally *2020 Royal Commission Report* (n 1).

²⁹⁴ See Michael Eburn, 'Responding to Catastrophic Natural Disasters and the Need for Commonwealth Legislation' (2011) 10(3) *Canberra Law Review* 81, 87–91. See also Department of Transport and Regional Services (Cth), *Natural Disasters in Australia: Reforming Mitigation, Relief and Recovery Arrangements* (Report, August 2002) 62.

²⁹⁵ To 'recognise and enhance the role of the Commonwealth in preparing for, responding to and recovering from emergencies that cause, or are likely to cause, nationally significant harm': *National Emergency Declaration Act 2020* (Cth) s 3(1). '[N]ationally significant harm' is defined by its scale or consequences and includes harm to the lives or health of humans, animals or plants, harm to the environment, damage to property and infrastructure and disruption to essential services: s 10 (definition of 'nationally significant harm').

²⁹⁶ *Ibid* ss 11(1) (making a declaration), 11(5) (declarations can be in place for up to three months unless extended), 12 (extending a declaration), 14A (all declarations must be reviewed within one year).

²⁹⁷ *Ibid* ss 11(2)–(3)(a), 12(2).

²⁹⁸ See, eg, *ibid* s 16(3)(a) on advice about stockpiles of medical or other supplies held by or available to a relevant Commonwealth entity.

²⁹⁹ *Ibid* s 15.

in major disasters such as bushfires.³⁰⁰ The need to improve coordination is both persistent and increasingly important, as ‘compound extreme events’ increase.³⁰¹ Compound events occur when, for example, catastrophic bushfires burn multiple areas at once, or at the same time as other disasters such as heat-waves or droughts.³⁰² Compound events are likely to transcend state and territory borders, and exceed individual states’ capacity to address and prevent the cross-border resource-sharing that is crucial to Australia’s ‘surge capacity’. Greater international collaboration and long-term planning for firefighting resources are also crucial, because resources historically shared across hemispheres may no longer be available as northern and southern hemisphere fire seasons overlap.³⁰³

IV WHY IS THIS ANALYSIS IMPORTANT NOW?

Like human anatomy, our understanding of this legal anatomy of bushfire law is not perfect or complete. Even so, understanding the anatomy of this area of law is a crucial starting point for a more detailed analysis of the operation of individual components, in context. Medical professionals are trained in human anatomy so that they understand relationships between the different components of the human body, and so that they can diagnose health conditions, prioritise interventions and avoid causing additional health problems or comorbidities. Understanding the anatomy of a legal framework is similarly fundamental, helping lawyers, policymakers, researchers and others to understand relationships between different components of a complex and interconnected legal system; diagnose legal and policy problems in their social and ecological context and effectively prioritise interventions; and avoid making a problem worse.

The first and perhaps most important insight to be gained from this anatomy of bushfire law is about the relationship between the different laws listed in

³⁰⁰ Cf 2020 *Royal Commission Report* (n 1) 149 (recommendation 5.1). See Michael Eburn, ‘Federal Parliament Passes the National Emergency Declaration Bill 2020’, *Australian Emergency Law* (Blog Post, 15 December 2020) <<https://emergencylaw.wordpress.com/2020/12/15/federal-parliament-passes-the-national-emergency-declaration-bill-2020/>>, archived at <<https://perma.cc/Y8K4-VSPY>>.

³⁰¹ Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis* (Summary for Policymakers, 2021) 9 n 18.

³⁰² *Ibid.*

³⁰³ See Lisa Gibbs, ‘More Than a Decade after the Black Saturday Fires, It’s Time We Got Serious about Long-Term Disaster Recovery Planning’, *The Conversation* (online, 30 March 2021) <<https://theconversation.com/more-than-a-decade-after-the-black-saturday-fires-its-time-we-got-serious-about-long-term-disaster-recovery-planning-158078>>, archived at <<https://perma.cc/3EG3-QY9B>>.

Figure 1. Major post-fire reviews often make recommendations to improve emergency services and emergency management laws, arrangements for hazard reduction (Ring 1), and native vegetation management and land use planning rules (Ring 2).³⁰⁴ This is unsurprising, because the terms of reference for these reviews usually focus on lessons to be learned from a specific bushfire disaster. The anatomy of bushfire law set out in this article demonstrates that post-fire reviews are not an ideal vehicle for considering the legal framework holistically. In particular, those conducting such reviews may not have the remit or capacity to consider the full breadth of relevant, interacting laws, such as WH&S laws or integrated catchment management and freshwater habitat protection alongside, for example, streamlining hazard reduction activities.

A corresponding benefit to understanding relationships between the laws in Figure 1 is clarifying that institutional and legal contexts (Rings 3 and 4) constrain what can be achieved in reforming fire-related laws in Rings 1 and 2. For example, opportunities to improve coordination in the response to bushfires, both within and between state emergency services, are constrained in important ways by divisions of power and fiscal arrangements under the *Constitution*.³⁰⁵ Similarly, native vegetation management and bushfire hazard reduction may be informed (and potentially undermined) by developments in common law liability and bushfire litigation. While it can be difficult to reform those broader legal and institutional contexts, attempts to reform the fire and land management laws at the centre of Figure 1 without reference to that context may be ineffective or even counterproductive. Conversely, revealing overlaps and permeability between the component parts of bushfire laws may allow us to promote desirable reform in unconventional ways. For example, the practical and regulatory overlaps in managing the impact of bushfire smoke on human and environmental health appear to support a recent proposal that promoting effective air quality management may also drive innovation in achieving more environmentally sustainable forms of fuel management.³⁰⁶

The third insight that we can draw from this anatomy of bushfire laws is that prioritising certain legal reforms could help us to achieve more effective fuel and fire management across landscapes while also promoting a range of other social, cultural and environmental goals. For example, Indigenous cultures have

³⁰⁴ See, eg, *2020 Royal Commission Report* (n 1) ch 19; *NSW Bushfire Inquiry Final Report* (n 73) vii–xx. See also Government of South Australia (n 47) vi–vii (recommendations 1–15), with the exception of recommendation 6, which encourages the South Australian Government to '[c]onsider removing stamp duty from home insurance to encourage a wider section of the community to take out insurance': at vii.

³⁰⁵ For example, through the social security system and in the form of ad hoc disaster payments.

³⁰⁶ See generally David MJS Bowman et al, 'Can Air Quality Management Drive Sustainable Fuels Management at the Temperate Wildland-Urban Interface?' (2018) 1(2) *Fire* 27.

long used low-intensity, cool burns to nurture landscapes and build cultural connections to Country.³⁰⁷ Despite the potential for cool burns to reduce the impact of late season fires on life, property and biodiversity, this form of fire management is not typically the subject of specific legal provisions.³⁰⁸ Facilitating cultural burning and engaging Indigenous peoples in the management of fire on their Country could be an expression of reconciliation, supporting a growing push from many Indigenous communities to re-engage with ‘good fire’ on Country.³⁰⁹ Legislation and policy could readily play a more supportive role for cultural burning,³¹⁰ including by clarifying access and burning rights on public land and underpinning cooperative arrangements for cultural burning on private land; streamlining integrated fire planning and management between Indigenous communities and fire and conservation agencies;³¹¹ providing incentives, resourcing and indemnities from liability for cultural burns conducted in good faith; and ensuring that cultural burns are Indigenous-led and Country-centred.³¹²

³⁰⁷ Kira M Hoffman et al, ‘Conservation of Earth’s Biodiversity Is Embedded in Indigenous Fire Stewardship’ (2021) 118(32) *Proceedings of the National Academy of Sciences of the United States of America* e2105073118:1–6, 1–2. The 2020 Royal Commission into National Natural Disaster Arrangements noted that hazard reduction burning may have little impact on catastrophic fires: 2020 *Royal Commission Report* (n 1) 373 [17.41]–[17.43]. Cf Minister for Police, Fire and Emergency Services (Qld), ‘Operation Cool Burn Activated’ (Media Release, 4 April 2014) <<http://statements.qld.gov.au/Statement/2014/4/4/operation-cool-burn-activated>>, archived at <<https://perma.cc/94MV-2VMJ>>.

³⁰⁸ With the exception of the legal instruments and arrangements discussed in Ring 2 regarding Indigenous land management and bushfire: see above Part III(B).

³⁰⁹ See 2020 *Royal Commission Report* (n 1) 389 [18.18]–[18.20]. See also ‘Good Fire Podcast’, *Your Forest* (Web Page, 2021) <<https://yourforestpodcast.com/good-fire-podcast>>, archived at <<https://perma.cc/JYJ7-2YE8>>. In the US context, see Scott L Stephens et al, ‘Fire, Water, and Biodiversity in the Sierra Nevada: A Possible Triple Win’ (2021) 3(8) *Environmental Research Communications* 081004:1–10, 1.

³¹⁰ This is being tackled by the new Cultural Fire Management Unit in NSW, which is working on a draft ‘cool burning bill’. The NSW Hunter Local Land Services, Tocal College and the Firesticks Alliance have also co-developed the first accredited course incorporating cool burning into land management and conservation: Damon Cronshaw, ‘Aboriginal Fire Management Returns to the Hunter and NSW with Cultural Burns’, *Newcastle Herald* (online, 30 August 2021) <<https://www.newcastleherald.com.au/story/7405102/aboriginal-bush-burning-returns-to-the-hunter/>>, archived at <<https://perma.cc/FD9R-U4J9>>.

³¹¹ Including to create new opportunities for cultural burning in co-managed and other protected areas, to identify co-benefits from cultural burns for weed management, habitat conservation and rehabilitation, and to emphasise ‘healthy Country’ in conservation management, allowing a broader ecological and cultural understanding of landscape health that includes fire.

³¹² That cultural burning is an important component of broader Aboriginal land management, and not simply another technique for hazard reduction, was recognised in *NSW Bushfire Inquiry Final Report* (n 73) 183 (recommendation 25). See generally Jessica K Weir, Dean

Finally, a clearer understanding of this anatomy of bushfire laws may help us to avoid interventions that will worsen the challenges that bushfires present. For example, having demonstrated the complex diversity of legal instruments, principles and actors at play in relation to bushfires, we are not arguing that this legal framework should be centralised or simplified. Despite clear interactions and permeability between the rings in Figure 1, attempts to consolidate power or responsibility for *all* aspects of decision-making about fire would be rightly viewed with suspicion. Decisions about areas of specialist expertise are often appropriately located within the relevant, discrete area of law. Furthermore, top-down reform of a system this complex *may* promote desirable outcomes, such as better coordinated fire response across borders and sectors, but also risks consolidating power in undesirable ways. For the most part, any consolidation of power would be to fire agencies that are less equipped to understand and balance the multitude of social, ecological, cultural and economic values and priorities held by communities across Australia that are affected by fire.

Another way to make a problem worse can be to ignore it, or cherrypick 'symptoms' to treat, rather than tackle the root cause. This is evident in past failures to adopt or implement recommendations from the host of post-fire inquiries and reviews that have called for integrated bushfire law and policy reform.³¹³ Recognising the tendency to take this approach, the 2020 National Royal Commission noted that '[f]ailure by governments to act on our recommendations will shift risk to others,' and '[i]f a recommendation is not accepted, reasons should be given, so that others know that they may need to act.'³¹⁴ The risks of a piecemeal approach are exemplified in recent reform efforts that accommodate aggressive fire prevention by relaxing or circumventing some or *all* land clearing restraints through streamlined approval processes.³¹⁵ Ignoring

Freeman and Bhiemie Williamson, *Cultural Burning in Southern Australia* (Report No 687, July 2021).

³¹³ Kevin Tolhurst, 'We Have Already Had Countless Bushfire Inquiries: What Good Will It Do To Have Another?', *The Conversation* (online, 16 January 2020) <<https://theconversation.com/we-have-already-had-countless-bushfire-inquiries-what-good-will-it-do-to-have-another-129896>>, archived at <<https://perma.cc/XS3Q-P4JM>>, noting that there have been approximately 57 formal public inquiries, reviews and royal commissions related to bushfires and fire management since 1939. For a list of inquiries and commissions into bushfires and other natural hazards, see generally 'Inquiries and Reviews Database', *Bushfire & Natural Hazards CRC* (Web Page) <<https://tools.bnhcrc.com.au/ddr/dataspace-home>>, archived at <<https://perma.cc/6YTB-FQFV>>.

³¹⁴ *2020 Royal Commission Report* (n 1) 33 [114]–[115], noting that its recommendations will require a 'cohesive and unified national effort'. The complex process of improving coordination is a good example of a recommendation that has been made repeatedly, and rarely implemented: at 99–109 (recommendations 3.1–3.6).

³¹⁵ See McDonald and McCormack (n 57) 159.

existing protections for social, cultural and environmental values risks destroying those values and politicising and fragmenting communities that might otherwise collaborate to enhance and deepen resilience and bushfire preparedness.³¹⁶

V CONCLUSION

Bushfires are not a 'problem' that the law can solve. Even so, our laws and policies have an important role to play in preparing communities and environments for a future that will be defined by our experience of fire. In this article, we have used a novel conceptual model to illustrate the breadth of laws that relate to bushfires in Australia, ranging from fire-specific crimes and the establishment of bushfire agencies through to the legal and institutional structures that underpin the allocation of powers, obligations and liabilities for fire. We have illustrated the ways in which laws about fire cross a multitude of specialised legal sub-disciplines, and are influenced by legal instruments that do not, at face value, have any relationship with bushfire, such as consumer lending laws and the *Constitution*. In this anatomy of bushfire law, we have also demonstrated the range of values that can be affected by fire and prioritised in different ways by individuals, communities and sectors.

Understanding the anatomical components of Australia's legal framework for bushfire more clearly allows us to discuss, with specificity, the different management goals, desirable outcomes and substantive legal and policy tools that are available to prepare for, respond to and recover from fire. We have also argued that understanding this anatomy is an important prerequisite to developing rational, holistic and effective proposals for legal reform, and for breaking free of the bushfire inquiry 'cycle',³¹⁷ which will be increasingly important as climate change drives rapid increases in the scale and frequency of catastrophic bushfires.

This article has, by necessity, provided just a brief overview of each area of law in Figure 1. There remains important work to be done, including to interrogate the interactions between fire-specific laws, land management laws, and the legal and institutional contexts set out in Rings 3 and 4, particularly as

³¹⁶ See Michael Eburn and Stephen Dovers, *Learning for Emergency Services: Looking for a New Approach* (Discussion Paper, 13 September 2016) 11–18 <<https://www.bnhcrc.com.au/publications/biblio/bnh-3054>>, archived at <<https://perma.cc/5P9Z-B3C4>>. See also Whittaker and Mercer (n 40) 274.

³¹⁷ Kanowski, Whelan and Ellis (n 40) 78, where the bushfire inquiry 'cycle' describes the way in which major bushfire events are followed initially by blame; then by public inquiries, increases in emergency funding and initial community compliance; then later by coronial inquiries and growing complacency, until the next bushfire event when the cycle begins again.

climate change drives changes to Australia's bushfire regimes. There has been some progress on this point. For example, the 2009 Victorian Royal Commission gave little consideration to climate change beyond acknowledging that it will contribute to increased fire risk in future.³¹⁸ The 2020 NSW Inquiry recognised that the 2019–20 fire season was exacerbated by climate change,³¹⁹ and the 2020 National Royal Commission went further, explicitly acknowledging that climate change will increase bushfire risks in future and worsen bushfire trends in the near-term.³²⁰ Nevertheless, a comprehensive and future-oriented legal reform agenda for Australian bushfire laws remains outstanding and overdue.

Climate change will continue to exacerbate unresolved challenges for legal and administrative arrangements for bushfire, including limitations in their flexibility, coordination and capacity to improve climate adaptation and community resilience. We have sought to articulate the full scope of Australia's existing laws to provide new clarity and a strong foundation for the task of ensuring that our bushfire laws, and our communities, are in the best possible position to adapt as fire regimes change.

DEDICATION

This article is dedicated to Dr Rebecca MB Harris, who passed away on 24 December 2021. Rebecca was a brilliant scientist, a lead author on the IPCC's Sixth Assessment Report, *Climate Change 2021: Impacts, Adaptation and Vulnerability* and, for some of the authors of this article, a long-time collaborator and friend. Among other things, her influential research tackled the intersection between climate change and bushfires and the impact of climate change on biodiversity, both of which are represented in her contribution to this research.

³¹⁸ 2009 Victorian Bushfires Royal Commission Final Report (n 95) vol 2, 223.

³¹⁹ NSW Bushfire Inquiry Final Report (n 73) 78. Recommendation 36 includes 'commissioning experiments and feasibility studies for ecosystem adaptation experiments — for example, facilitating shift of high conservation-value rainforest vegetation communities further south as climatic conditions change': at 247.

³²⁰ The 2020 National Royal Commission acknowledged that '[s]trong adaptation measures are necessary to respond to the impacts of climate change': 2020 Royal Commission Report (n 1) 61 [2.35]. Despite this, none of the Royal Commission's 80 recommendations specifically address the need for climate adaptation, pointing instead to the need for more monitoring and research, such as downscaled climate projections for states and territories: at 35 (recommendation 4.5).