

AUSTRALIA

Heritage at Risk

Australia has endured a ferocious summer in 2019/20, with crippling drought and massive bushfires, all of which have profoundly impacted cultural and natural heritage. Many now see this as evidence of the climate emergency (Fig. 1).

The ocean surface around Australia has warmed over recent decades at a similar rate to the air temperature. Sea surface temperature in the Australian region has warmed by around 1°C since 1910, with eight of the ten warmest years on record occurring since 2010. Australia's climate is notorious for its volatility, but the high temperatures of the current 2019/20 summer have been at the extreme end of any scale. The country sits between two major oceans and is buffeted by the shifting circulation patterns of both. The weather over Australia can change drastically from year to year and become hard to predict. The Indian Ocean Dipole, the cycle of the temperature gradient between the eastern and western parts of the Indian Ocean, was in its positive phase in 2019. That led to much less rainfall over Australia as prevailing winds pushed moisture gathering above the Indian Ocean away from the continent in the spring.

In addition to the dry spell, Australia set a new record for its hottest day in December 2019, with temperatures over 40°C in most of the nation's major cities, with inland areas of Victoria, New South Wales and South Australia eclipsing 50°C. Recently, researchers carried out an analysis of the impact of climate change on the risk of wildfires happening all over the world. The study looked at 57 research papers published since the last major review of climate science in 2013. All the studies in the review showed links between climate change and the increased frequency and severity of fire weather. This has been seen in many regions, including the western USA and Canada, Scandinavia, Portugal, Amazonia, Indonesia, and even the Arctic.

In Australia, while most are convinced, it is only now that consensus is beginning to form that the extreme weather events are climate change-related. As of January 19, 2020, 80 percent of the Blue Mountains World Heritage Area has been devastated by bushfires. In the state of New South Wales alone, 21 human lives have been lost, over half a billion animals killed, five million hectares burnt and more than 2100 structures destroyed. By the end of the fire season, the figures are expected to be far higher. Heritage places are amongst the casualties and include urban, rural and industrial heritage, Aboriginal heritage, archaeological sites and cultural landscapes.

Weather conditions across Australia are changing due to human-induced climate change. We can expect ever increasing droughts and bush fires, disastrous storm events, floods and cyclones. The intensity of each of these will increase, though perhaps not linearly each year, and prediction will prove difficult. Risk to heritage is clear and increasing. Mitigation and preparedness are paramount and at the forefront of discussions



Fig. 1: Bushfires of 2019 (photo courtesy of ABC)

pertaining to heritage protection. While all bushfires cannot be prevented, good preparation can assist in minimising the effects. Adaptation and mitigation measures, emergency response plans and actions, including removal of fuel through controlled or cultural burning, will be critical to the survival of Australia's heritage. Australia ICOMOS is currently reviewing and updating guidelines for managing cultural heritage places affected by disasters.

The listing and mapping of heritage places throughout Australia varies from state to state, and there are many places of heritage value that have not been formally assessed or documented. Assessments are in accordance with the principles set out in the Australia ICOMOS Burra Charter. Management is guided by site-specific conservation plans. The identification and management of disaster risk to Australia's heritage places will add another layer to current management practices. The collections and archives sector are better prepared with disaster plans and response protocols in place for most major collections, and training is provided. This is far less common in the heritage places sector, but must become part of our common practice.

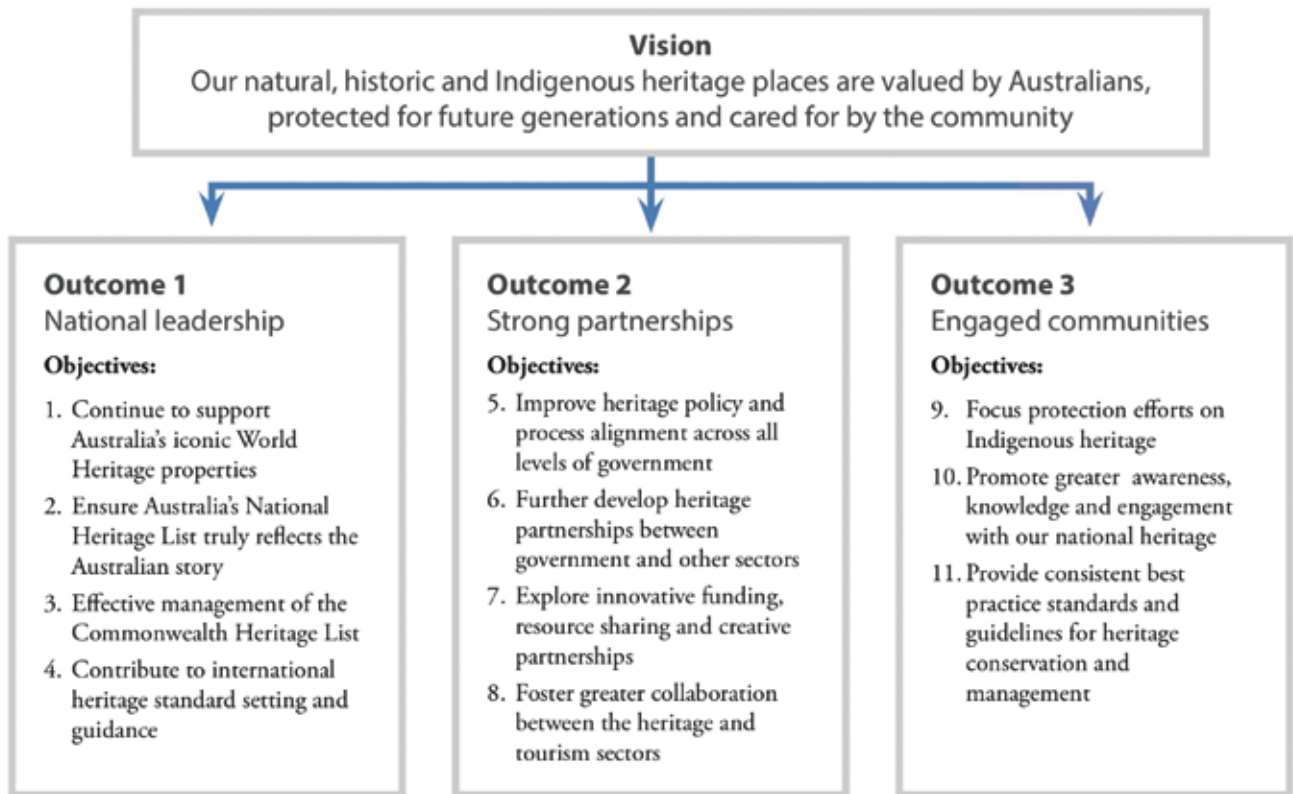


Fig. 2: "Current and emerging risks to Australia's heritage", Mackay R (2017). *Australia state of the environment 2016: heritage*, independent report to the Australian Government Minister for the Environment and Energy, Australian Government Department of the Environment and Energy, Canberra

Community expectations regarding the conservation of historic cultural heritage are debated and continually evolving within Australia, as they should be. Legislative protection of cultural property at the national level is under the auspices of the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The Act was recognised at a time of significant change in heritage policy. The EPBC Act established the National Heritage List in 2004, which currently recognises the outstanding Indigenous, historic and/or natural heritage values of more than 100 places across Australia. Also, of significance is the 2015 Australian Heritage Strategy pertaining to the recognition and protection of cultural property, which recognises that heritage is diverse and encompasses natural, historic and Indigenous values. It considers ways in which Australia's heritage places can be better identified and managed to ensure their long-term protection. The Heritage Strategy will be reviewed in 2020 by the Australian Government, with subsequent periodic monitoring, evaluation and review of objectives and actions as required. In order for the Strategy to be effective it will need to be embraced by individual state governments, NGOs and community groups (Fig. 2).

In Australia, State of the Environment (SoE) reporting occurs at both the national and state/territory level. The Commonwealth (national) State of the Environment report prepared in 2016 identifies risks to heritage (with text prepared by Professor Richard Mackay AM) (Fig. 3):

"Australia's heritage continues to be under-resourced, and at risk from both natural and human factors. Some risks, such as catastrophic fire or extreme weather event, may not be easily

	Catastrophic	Major	Moderate	Minor	Insignificant
Almost certain	<ul style="list-style-type: none"> ■ Inadequate resources for physical conservation ■ Destruction of heritage places to facilitate new development ■ Incremental destruction of Indigenous places ■ Neglect resulting from rural population decline ■ Lack of reliable and comprehensive national, state and local data to inform heritage management decisions 	<ul style="list-style-type: none"> ■ Lack of incentives for private-sector heritage conservation ■ Duplicate and inconsistent statutory processes 	<ul style="list-style-type: none"> ■ Loss of unidentified local heritage places 		
Likely	<ul style="list-style-type: none"> ■ Loss of rare species habitat ■ Invasive species in reserved lands ■ Inadequate land-use and planning controls ■ Resource extraction leading to destruction or disturbance of heritage values ■ Loss of specialist heritage trade skills ■ More frequent wildfire ■ Green building agenda metrics encouraging replacement of heritage items, rather than their conservation 	<ul style="list-style-type: none"> ■ Change of land use leading to habitat disturbance ■ Perception of heritage as expendable ■ Development leading to destruction or disturbance of heritage values ■ Inadequate survey and assessment, leaving heritage open to development threats ■ Deleting of significant places and removal of statutory protection 			
Possible	<ul style="list-style-type: none"> ■ Unmanaged major fires, leading to landscape-scale destruction of heritage values ■ Removal of statutory protection 	<ul style="list-style-type: none"> ■ Major damage from extreme weather events ■ Loss of Indigenous traditional knowledge 			
Unlikely	<ul style="list-style-type: none"> ■ Large-scale resource extraction from reserved lands, with destruction or disturbance of heritage values 				

Fig. 3: Current and emerging risks to Australia's heritage



Fig. 4: The Koonalda Cave contains within finger markings in the soft limestone made over 22,000 years ago (photo Department of the Environment)

mitigated, and instead may require post-event response. Events such as the removal of statutory protection or large-scale resource extraction from reserved lands could have catastrophic impact, but would arise from deliberate decisions and are unlikely. However, major risks arise from the effects of climate change, such as damage from extreme weather events, more frequent fires, loss of habitat or increases in invasive species. Indigenous cultural heritage continues to be at risk from some loss of traditional knowledge and incremental destruction, because development approval affords priority to site-specific heritage impact, rather than cumulative incremental impact. Resourcing is also a major risk factor, including lack of data to inform decision-making, limited funding, lack of incentives, neglect arising from rural population decline, or the loss of specialist heritage trade skills. Development and resource extraction projects continue to threaten the nation's heritage at both a landscape and individual site scale. Development impacts are at risk of being exacerbated by inadequate pre-existing survey, assessment and statutory protection.

The commitment to national leadership in Australia Heritage Strategy should reduce the overall risk to Australia's heritage. However, continuing reduction in the public-sector resources allocated for heritage presents a growing risk to long-term conservation of heritage values"

In the context of climate change, globally, we are recognising what must be done. "Appropriate design of policies, institutions and governance systems at all scales can contribute to land-related adaptation and mitigation while facilitating the pursuit of climate-adaptive development pathways" (Intergovernmental Panel on Climate Change [IPCC], August 2019). Australian Aboriginal land management practices, having developed over many millennia, present a fine exemplar of adaptation to our nation's harsh climatic conditions. Responsibility for the continued survival of all of Australia's cultural heritage now rests with us.

In Australia, agencies and organisations, including Australia ICOMOS, Blue Shield Australia, the Australia and New Zealand Working Group on Risk Preparedness for Cultural Heritage are all striving to communicate and highlight best practice to first responders, while educating governing agencies on resourcing requirements and the importance of risk mitigation around cultural property. In 2016, Blue Shield International expanded its remit to include environmental disaster. Blue Shield is "committed to the protection of the world's cultural property and is concerned with the protection of cultural and natural heritage, tangible and intangible, in the event of armed conflict, natural-or human-made disaster" (Article 2.1, 2016 Statutes). Current thinking is that those in uniform are trained for both armed conflict/peacekeeping and as first responders following natural disasters, the issues overlapping by 60 to 70 percent. Australia is a signatory to the Hague Convention, but has yet to ratify Protocols One and Two. Increased awareness of the Convention and our obligations under the Convention, and increased discussion around protection of cultural heritage will doubtlessly place potential ratification further in the spotlight (Fig. 4).

Dr Tanya L Park
Catherine Forbes

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