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# Separating natural and cultural heritage: an outdated approach?

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## ABSTRACT

This paper considers a problematic dynamic in the protection of natural World Heritage properties for sites that also possess significant cultural assets, but that fall short of the World Heritage designation ‘outstanding universal value’ standard for cultural significance. The destruction of cultural heritage places in natural settings is a global concern and we use an Australian case study to illustrate the argument that cultural assets located within natural properties should be given an allied protection status. We argue that protection problems arise, represented by a nature/culture binary trope, despite significant progress in using more holistic approaches, as exemplified by cultural landscapes. To demonstrate our argument, we consider controversy surrounding a development proposal within the Greater Blue Mountains World Heritage Area (GBMWH), located in the state of New South Wales, Australia. We find that a development proposal to raise a storage dam wall triggers significant problems for protecting both natural and cultural heritage features across the GBMWH landscape and, in this context, we recommend a reconsideration of the rigid natural/cultural heritage binary of World Heritage classifications.

## KEYWORDS

Greater Blue Mountains World Heritage Area; natural heritage; cultural heritage; cultural landscape; Australia; biocultural heritage

## Introduction

### *The Greater Blue Mountains World Heritage area (GBMWH)*

The Blue Mountains area is located approximately 100 km to the west of Sydney, New South Wales (NSW), Australia. Parts of the Blue Mountains were first formally designated as ‘sights reserves’ in the 1800s (NSW NPWS 2001). In 1875, the Grose River catchment was reserved from sale to protect water quality and as a natural spectacle (Macqueen 1997). The first official proposal for a Blue Mountains National Park (BMNP) was put forward by conservationist and bushwalker, Myles Dunphey in 1922 (Mosley 1989; NSW NPWS 2001). The idea gained momentum, and by 1931 the Sydney Bush Walker’s Club committee formed to prevent land clearance and instead to designate the lease area of Blue Gum Forest in the Grose Valley as recreational reserve (NSW NPWS 2001). In 1959, a trust was established and 62,000 hectares of land was gazetted as BMNP and extensive additions have been made continuously

since then (Mosley 1989; NSW NPWS 2001). Today, the Greater Blue Mountains World Heritage Area (GBMWHa) includes eight (protected area) conservation reserves and covers 1,032,649 hectares (UNESCO 2020). There are 12 adjoining areas including seven adjacent national parks and one conservation reserve, which total 165,100 hectares (NSW Government 2009; UNESCO 2020). The GBMWHa contains a diverse range of Eucalypt habitats including wet and dry sclerophyll forest, Mallee heathland, swamps, wetland, and grassland (UNESCO 2020).

The GBMWHa has been protected as a World Heritage (WH) property since November 2000, when it was listed for its outstanding natural features (UNESCO 1999; Hammill and Tasker 2010). It was listed under two criteria: Criterion IX as it 'possesses outstanding examples of ecological and biological processes significant in the evolution of ecosystems and communities of plants and animals' and Criterion X as it 'contains important and significant natural habitats for the conservation of biological diversity, including threatened species of outstanding value'. The GBMWHa contains the highest diversity of Eucalypts in the world (13%) and the greatest concentration of Eucalypt diversity in Australia, with over 100 species (Hammill and Tasker 2010; NSW NPWS 2001). Relic Gondwanan taxa such as the Wollemi Pine (*Wollemia nobilis*) and Dwarf Mountain Pine (*Microstrobus fitzgeraldii*) are largely restricted to the GBMWHa and have survived by taking refuge in canyons and permanently moist areas, that have protected these species from the effects of climate change (NSW Government 2009; Hammill and Tasker 2010). The vegetative communities and plant species include 114 endemic species (only found in one area) and 127 rare species, many of which, are protected under Australian federal government law, through the *Environmental Protection and Biodiversity Conservation Act 1999* Cth (EPBC Act). The ongoing protection of the GBMWHa is a global concern, and any potential threats to the property require critical scrutiny.

### **The Warragamba Dam Development proposal**

This paper examines the potential impact on the GBMWHa from the current *Warragamba Dam Development Proposal* (WDDP), a proposal which aims to raise the Warragamba Dam wall by 17 metres and create a flood mitigation zone in order to reduce the flood risk to urban and semi-urban areas within the adjacent Hawkesbury-Nepean Valley region. A *Hawkesbury-Nepean Valley Flood Risk Management Strategy* (May 2017) identified the WDDP as the key solution to the NSW state government's integrated approach to mitigate flood risk in this region. This Strategy document highlighted the urgent need for flood mitigation measures to reduce the threat to life, property, and infrastructure in downstream communities in parts of the Hawkesbury and Western Sydney regions (Infrastructure 2017).

Raising the Warragamba Dam will probably have a significant impact on the surrounding GBMWHa. There is considerable ongoing controversy about the extent of upstream flooding impacts associated with raising the dam wall by 17 metres. It is estimated that over 4700 hectares of World Heritage listed area and 65 kilometres of upstream wild rivers will be inundated (Hufton 2018; Muir 2014). Other reports, however, such as the Preliminary Environmental Assessment predict flooding of only 2500 hectares (BMT WBM Pty Ltd 2016). The extent to which the natural heritage

‘Outstanding Universal Value’ (OUV)<sup>1</sup> of the GBMWHa may be compromised by the dam wall raising proposal is unclear. However, the upstream inundation area includes 48 threatened and endangered plant and animal species (Hufton 2018). Ecologically significant communities and species are predicted to die from increased sedimentation, invasive species and extensive areas of banks will become eroded (Hufton 2018; Muir 2014). In addition to the potential loss of the natural features and lack of access to the Kedumba Valley and other natural areas, the landscape will be permanently scarred (Hufton 2018; Muir 2014, 2016).

Australia is under an obligation to maintain the ‘Outstanding Universal Values’ (OUV) of the GBMWHa as a signatory to the *World Heritage Convention*; however, the WDDP has called this into question and exposed further frailties within the existing protective schema. The potential adverse impacts from the WDDP project have received criticism for several reasons. Especially poignant considering concerns regarding biodiversity protection is the allegation that there has been a failure to conduct new environmental field surveys of the catchment area following the 2019 bushfires (UNESCO 2020, 12). The 2019–2020 Australian bushfires were significant and garnered global attention. Approximately 80% of the GBMWHa was impacted by the bushfires. The WH Committee State of Conservation Report (UNESCO April 2020) for the BBMWHa estimated more than 850,000 hectares were burnt. The process of working through the impacts of the bushfire on the OUV of the natural assets (especially the temperate eucalypt forests) continues.

In this context, one important issue concerning the protection of the GBMWHa that has not always received prominent attention has been identified. The WH Committee State of Conservation Report (UNESCO 2020) raised concerns about the intersection of other conservation issues and identified the WDDP together with adverse impacts on Aboriginal cultural heritage:

Aboriginal people have strong ongoing connections to this area and its outstanding geological features, such as sandstone cliffs, slot canyons and waterfalls. The Statement of Outstanding Universal Value indicates that: An understanding of the cultural context of the GBMA is fundamental to the protection of its integrity. Aboriginal people from six language groups, through ongoing practices that reflect both traditional and contemporary presence, continue to have a custodial relationship with the area. Occupation sites and rock art provide physical evidence of the longevity of the strong Aboriginal cultural connections with the land. The conservation of these associations, together with the elements of the property’s natural beauty, contributes to its integrity. There is significant concern within the Aboriginal community regarding Aboriginal cultural heritage impacts from fires. ... NSW has obligations under its National Parks and Wildlife Act 1974 for the management and protection of Aboriginal cultural heritage. The NSW National Parks and Wildlife Service also has obligations under the Gundungurra Indigenous Land Use Agreement, which covers some of the property, to protect culturally significant sites and places, and to work together with the community to identify and monitor the condition of those sites (UNESCO 2020).

Ongoing successful management of the GBMWHa now clearly also necessitates a consideration of the importance of the cultural value of this unique landscape. We suggest that it is in the adverse impacts on cultural heritage, located within a WH natural property, where potentially ‘hidden’ problems for successful ongoing protection arise.

### ***GBMWH: under-recognition of First Nation cultural heritage***

Original Warragamba (river) dam construction had significant impacts on the under-recognised cultural heritage assets of the region. The original construction of the Warragamba Dam largely during the 1950s flooded hundreds of Aboriginal heritage sites and displaced the local Gundungurra people (Hufton 2018). The Burragorang Valley is an important First Nation site. A Gundungurra creation story explains how two dreamtime spirits, *Mirrigan* and *Gurangatch*, formed the gorges of the Burragorang Valley. The watering holes and other sites of significance created by this cross-country battle between the spirits are crucial to the Gundungurra people. This valley was first flooded by the creation of the Warragamba Dam and caused the irreversible loss of countless sites, including 11 of the 15 waterholes associated with the *Mirrigan* and *Gurangatch* Dreaming. Ongoing concern regarding protection of cultural heritage has flared with the newest dam-wall raising proposal as flooding of sacred sites adversely impacts connection to Country and potentially prevents the Dreamtime story passing to younger generations due to loss of physical access.

In 2000 the original WH listing for the GBMWH did not recommend inscribing the GBMWH for its cultural values (ICOMOS 1999). However, it is of considerable importance in the context of the current development proposal to note that the nomination dossier provided by the International Council on Monuments and Sites (ICOMOS) to the UNESCO WH Committee emphasised that the Greater Blue Mountains Area has recorded nearly 700 Aboriginal sites, with 40% containing some form of art (ICOMOS 1999). The GBMWH nomination dossier suggests a discontinuity of the “intense inter-relationship of nature and people over tens of thousands of years” due to European settlement, which “virtually destroyed the perfect symbiotic relationship of the Aboriginal culture” (ICOMOS 1999). In the context of controversy surrounding the under-recognition of First Nation cultural heritage in an Australian setting, these observations from 1999 are important.

It is estimated that further inundation from the proposed wall-raising development will place an additional 300 archaeologically significant sites<sup>2</sup> at risk of being flooded; these sites contain some of the last known rock art, marker sites and sacred waterholes (Hufton 2018). Aboriginal people would probably further lose connection to the sites which are used as meeting places and to tell Dreamtime stories, which reflect part of their identity (Hufton 2018). The First Nations communities within this upstream area are not necessarily a homogenous group as the area is comprised of six language groups, including the Darung, Gundaungurra, Wanaruah, Wiradjuri, Darkinjung and Tharawal (NSW Government 2021, p.29). The GBMWH Strategic Plan (2009 - 2019), endorsed by both NSW state and Australian federal governments, recognised that

Apart from those particular features which have been recognised by the World Heritage Committee as having World Heritage value, the GBMWH has numerous other important values which complement and interact with its World Heritage values. Some of these may have the potential to be nominated for World Heritage listing following further research and documentation. Protection of these values is an integral component of managing individual reserves as well as the GBMWH as a whole. (NSW Government, 2009, p.11)

One of these complementary important values relates to Indigenous sites. The GBMWH Strategic Plan continues

Known sites provide evidence of at least 14,000 (and possibly 20,000) years of Aboriginal occupation of the area, but traditional beliefs connect Aboriginal people with the landscape back as far as the creation stories. (NSW Government, 2009, p.13)

In this context both state and federal governments committed to co-management of the GBMWhA (NSW Government, 2009, p.32). In 2014 an Indigenous Land Use Agreement was signed between the Gundungurra people and the NSW government and this covers the area impacted by the WDDP (NSW Government 2021). This Agreement enables the Gundungurra People 'with the opportunity to provide input into ... management' (NSW Government 2014). There has been, and continues to be, significant concern surrounding the extent to which best-practice principles for cooperative consultation with First Nations groups (including the use of the *Burra Charter*) have been met with the WDDP proposal. These concerns have been raised in the media and by politicians (see, for example, Vollmer 2018, Sharpe 2018, Hannam 2021, Cox 2021, Slezak 2021) and in the NSW State parliament these concerns are the subject of a Select Committee report (October 2021). Of particular note are the allegations that the field surveys of Indigenous cultural heritage sites are inadequate. Genuine fears are raised that the integrity of the GBMWhA might be compromised with the WDDP's adverse impact on known and as yet unknown cultural heritage sites.

In Australia, First Nation people and their cultural sites have, arguably, not been very well considered in relation to developments that compromise their preservation (Parmenter & Trigger, 2018). A prominent example comes from recent controversy involving mining in the Pilbara region of Western Australia. This Rio Tinto mine site has garnered media attention for knowingly blasting the Juukan-2 cave which had continuous human habitation dating 46,000 years (Borschmann et al., 2020; Hutchens, 2020). These caves were among the oldest in Australia. The destruction of the cave included the loss of the cultural sequence, unique flaked stone artefacts and tools, rare abundance of faunal remains, preserved human hair and pollen which preserved the changing environmental conditions (Borschmann et al., 2020; Hutchens, 2020). The Juukan Gorge caves were recognised and placed on the 'Protected Areas List' under the *Aboriginal Heritage Act 1972* (WA) in 2013. However, in the same year, the Minister granted to Rio Tinto exemptions which prevented the company from being prosecuted if they 'excavate, destroy, damage, conceal or in any way alter any Aboriginal site' (section 18, *Aboriginal Heritage Act 1972* (Western Australia)). This highlighted the inefficiency of Western Australia's legislation, as the *Aboriginal Heritage Act* had not been significantly updated since 1972, leading to the approval of 463 mining permits that destroyed or damaged Aboriginal heritage sites (Sinclair & Michelmores, 2020). Arguably this destruction may not have occurred if Western Australian legislation protecting cultural heritage better reflected the priceless value of these places to Traditional Owners.

It has been widely agreed that a change in legislative terminology to recognise interconnected natural and cultural values is desperately needed (Carter, 2010; Muller, 2003; Shultis & Heffner, 2016; Watson, Matt, Knotek, Williams, & Yung, 2011).<sup>3</sup> Researchers suggest that embracing Aboriginal and Torres Strait Islander perspectives and increasing the opportunities for meaningful participation can provide better insights for effective management (Carter, 2010; Muller, 2003; Ross et al., 2009; Vrdoljak, 2018). These include recognising that cultural heritage should not only consider the loss of the

physical sites and artefacts, as well as the deep connection First Nation people have that is irreplaceable with the loss and destruction of this land.

### *An old-fashioned binary: nature / culture classification*

In this paper we posit that a nature/culture valuation approach for protected areas such as the GBMWH is a relic of the past and does not bode well for adequately protecting complex WH properties. It is well established that there is nothing ‘natural’ about wilderness (Castree & Head, 2008; Cronon, 1996). For some time, blended land and seascapes within the WH classification system have been well-recognised, especially with ‘cultural landscapes’ and/or ‘mixed-property’ designations, among others. Cultural landscapes classifications, for example, aim to value human-nature interactions and arguably enable more realistic conservation outcomes (Clement, 2020). Cultural landscapes were formally adopted in the UNESCO Operational Guidelines in 1992 in order to broaden the scope of WH listings that had perpetuated the nature-culture binary and to protect living traditional cultures and preserve traces of those that no longer remain (Aplin, 2007; Rössler, 2006). Cultural landscapes represent the interface between nature/culture, tangible/intangible heritage and cultural/biological diversity (Hill, Cullen-Unsworth, Talbot, & McIntyre-Tamwoy, 2011; Rössler, 2006). Today, there are over 120 cultural landscape WH properties across the globe, from Portovenere, Cinque Terre and the Islands (Pamaria, Tino and Tinetto) in Italy to the Konso Cultural Landscape of Ethiopia and the Vat Phou and Associated Ancient Settlements within the Campasak Cultural Landscape of the Lao People’s Democratic Republic, to name a few. All of these sites represent varied landscapes recognising the intrinsic nature/human collaborative relationship at their core (UNESCO [ud](#)). With this approach came wider acceptance of traditional custodianship and land tenure as part of the WH protection framework (Rössler, 2002) and as an example, the Tongariro National Park in New Zealand was listed as a cultural landscape for the strong spiritual links between the Maori people and their environment. Formal recognition of cultural landscapes goes beyond a designated protected area and attributes specific, local heritage values which strengthen the agency of Indigenous people to safeguard their heritage in the most appropriate way (Cocks et al., 2018). In short, the cultural heritage classification enables a more integrated management approach (Cocks et al., 2018).

Biocultural diversity is a similar idea that encompasses all natural and cultural systems (inclusive of human culture and language). It denotes that links have formed between cultural and bio-diversity which have developed over time through coevolution (Hill et al., 2011). A biocultural diversity concept goes beyond a traditional approach that separated nature conservation from cultural heritage conservation and gives more recognition to intangible heritage (Bridgewater et al., 2019). There is a lack of consensus about accepting the role of human culture in biodiversity conservation (Bridgewater et al., 2019), but the concept has been expanded from a focus on Indigenous communities to become more inclusive in both social and ecological settings (Merçon et al., 2019). Cultural landscapes under the WH Convention can be recognised as including biocultural diversity landscapes and this is recognised as assisting in strengthening a growing awareness of this approach. The adoption of biocultural approaches in the WHC at the global scale places pressure on top-down government policies at all levels



and enforces more appropriate actions and prevents harmful or unproductive conservation strategies (Merçon et al., 2019). While it is now almost 30 years since cultural landscapes were included as part of the *World Heritage List* as a distinctive category of protected area (1992), the recognition of bioculturally diverse landscapes represents an important change in the way we both value and represent global heritage. We argue that linking natural and cultural heritage through this approach warrants greater attention, especially in the context of a case study such as GBMWhA.

### ***Method: finding natural and cultural heritage value in the GBMWhA***

Our argument in this paper is that in the context of a controversial damming development proposal within the GBMWhA, threats to all heritage values of the property must be fully understood. We are interested in exploring what heritage means in this context. Our interest led us to explore how local communities across the Blue Mountains area perceive the GBMWhA in terms of both environmental (i.e. 'natural') and cultural values as a way of better understanding how protected areas are managed (Gillespie 2020). Accordingly, we surveyed residents of the Blue Mountains area through two pathways, first using semi-structured interviews with key informants and secondly through an on-line questionnaire. The impact of Covid-19 was important as the pandemic restricted face-to-face meetings and restricted recruitment of participants through electronic means only. Eighteen in-depth interviews were conducted with a range of key experts using remote technologies such as Zoom and phone calls. A question guide was developed in relation to five broad topics: 1. Environment, 2. Indigenous heritage and culture, 3. Flood risk and mitigation, 4. Participation and consultation 5. Policy. Our second method for collecting information about 'who values what' was an on-line questionnaire to collect qualitative resident perspectives on the dam-wall raising proposal. The questionnaire was hosted using the University of Sydney approved Qualtrics programme and could be completed on any digital device (Murphy et al., 2013; Sage, 2013). Qualtrics was selected as it is user-friendly for participants to navigate and encrypts data for security. On-line surveys have become common for primary data collection of social research (Keusch, 2015). Facebook is one of the most popular sites on the internet (Murphy et al., 2013; Subasinghe et al., 2016) so the survey was distributed to seven targeted Facebook groups and pages for residents of the Blue Mountains region (namely the townships of Katoomba, Mount Victoria, Blackheath and Wentworth Falls). The questionnaire consisted of open and closed questions. Closed questions were used to narrow participant knowledge on an issue and some questions led the respondent to alternative questions based on their response (Newing, 2011). A Likert scale provides a fixed range of potential answers which was useful to determine variations between the participants' views as it is measured on a quantifiable scale (Choy, 2014; Cloke et al., 2004; Newing, 2011). To complement these questions, open questions were used to determine the reasoning behind participant responses and learn about their perspective. The data collected were coded into major themes manually using Microsoft Excel to ensure codes were uniformly categorised into themes (Choy, 2014). A total of 97 completed and 40 partial survey responses were collected between 27 July and 30 September 2020.



## Results

### *Natural and Cultural Heritage Value align*

We found that the most pressing concern for participants in the interviews and questionnaire was a concern for adverse environmental degradation of the GBMWHa due to the damming proposal. Given that the GBMWHa is listed for OUV of its natural assets this finding is unsurprising. There is a clear understanding and appreciation of the diverse range of natural features at risk including the diversity of *Eucalyptus* species, endemic, threatened, and engendered flora and fauna species and communities. Nonetheless, in this context, a number of respondents recognised the importance of protecting both the natural and cultural values of the area. In this paper we, in particular, highlight cultural values/heritage in the context of this broader concern with environmental degradation of the GBMWHa.

Some respondents explicitly viewed the GBMWHa as a cultural landscape while many more acknowledged the close connection Aboriginal people share with their cultural sites. Everyone who identified themselves as an Aboriginal or Torres Strait Islander shared concerns for Aboriginal heritage and sites of cultural significance, but striking was the number of non-Indigenous people who wrote and spoke on behalf of the Aboriginal communities about the devastating effects this proposal poses. Twenty-seven respondents were concerned about the cultural impact posed by the proposal to the sacred Indigenous sites of significance. At the end of the survey, in free text, seven people had concerns over the potential loss of Aboriginal sites, and for example, wrote of their concerns:

The Gundungurra traditional caretakers of the land are against it. We need to start respecting their rights and learn other ways to manage our water supply. [Q 85]

The damage that raising the wall will cause to the remaining local Indigenous heritage will be irreversible and after the initial dam works destroyed much of the cultural landscape, any further damage must be avoided at all costs. [Q 86]

Interviewees expressed the need for stronger protection measures to prevent further destruction of culturally significant sites in Australia. Some respondents recognised that concerns surrounding the protection of Aboriginal cultural heritage and environment protection are inherently interconnected. This approach recognises the way Aboriginal communities have altered the landscape over time and the deep connection that is shared. There was recognition that the Gundungurra people have a long and close relationship with the area in and around the Burragorang Valley dating back to pre-European contact. It was recognised by some respondents that despite the forced removal of Aboriginal inhabitants due to the construction of the Warragamba Dam wall in the 1950s, their close relationship with the country continues today as a lived culture. For example, two interviewees said,

The issue of loss of Aboriginal heritage sites has been so important to the Gundungurra community because the construction of Warragamba Dam wall and subsequent flooding impacted a great number of sites. [I 2]

The inundation does not just destroy the physical 'sites' but also impacts the connection with the Dreamtime stories, particularly of Gurangatch and Mirrigan and one of the resting places to illustrate the beginning of our story as a Nation. [I 3]

Many participants highlighted a significant portion of the Burragorang Valley and cultural sites of significance were flooded when Warragamba Dam was constructed. Out of the 15 waterholes associated with the Gurangatch-Mirrigan Dreaming, only four remain. As one of the longest and most complete story lines in south-eastern Australia, the remaining route and associated cultural sites such as 'Slippery Rock', 'Face Rock', and the clan meeting places of Dharawhal and Gundungurra people for ceremonial activities and both traditional and post-European camping sites hold a high cultural value to multiple Aboriginal groups that shared the Burragorang and to destroy them would be 'sacriligious' according to one interviewee.

The damage caused by colonisation throughout Australia and adverse impact on cultural places was recognised by some of those interviewed. While there is acknowledgement that some steps have been taken to recognise that nature and culture are interconnected, participants clearly expressed that the WDDP process has not resulted in the adequate recognition of the unique knowledge of Traditional Owners that is crucial for effective protected area management. This perspective was important in terms of the Environmental Impact Assessment (EIA) process for the WDDP as it was seen that the EIA process tends to value the opinion of scientific experts over other stakeholders and some participants found the conclusions of the Aboriginal Cultural Heritage Assessment to be "completely inappropriate and offensive". For example, many locations along the Dreamtime story and Song-lines lack physical artefacts or occur in low numbers and thus are of a 'lower' significance. One Indigenous interviewee said,

Culturally we are the most impacted in Australia (from colonisation) and you just realise the damage that was done right across Australia. So we have lost a lot of connection and for the last at least 20 years of my breathing life, maybe 25, we have been trying to restore pathways, not just for Aboriginal people but our communities and I see the health of those connections in the Blue Mountains and I would hate to see us lose that connection for all of us. [I 1]

The growth of extractive and development industries at the expense of Aboriginal sites continues to be a contentious topic. As interviewees mentioned, a previous WDDP was rejected in 1995 due to strong and persistent advocacy about the effects it will have on environmental and cultural values of the GBMWhA. The resurrection of the dam wall raising proposal, despite the previously rejection of a similar project, indicated priority had not been placed on preserving the entire (natural and cultural) GBMWhA. As previously mentioned, this issue has not been isolated to the WDDP and has occurred across Australia since European colonisation, and the destruction of the Western Australian site of Juukan Gorge Caves by the mining company Rio Tinto was mentioned by participants. Many were able to recognise the similarities between the Juukan Gorge Caves example and the WDDP proposal. For these sites of indescribable importance to even be put at risk reflects that the values and knowledge of Traditional Owners have not been recognised to the extent that they should despite the importance of Indigenous co-management within protected areas (Carter, 2010; Muller, 2003; Ross et al., 2009).

## Discussion

The GBMWHa is considered to represent a distinctive cultural or even biocultural landscape. It is clear that there exists among those we surveyed, a significant need to better recognise First Nations connection to place, especially in the context of a broader concern to maintain environmental integrity. The 1999 nomination of the GBMWHa as a WH property with both mixed cultural and natural qualities only resulted in the listing for the latter, despite the nomination dossier indicating that the GBMWHa is a 'classic example of the nature-culture continuum' (ICOMOS 1999). The nomination dossier clearly identified the area as representing a place where local Traditional Owners shaped and were shaped by the natural landscape in an interconnected relationship that stretches back at least 14,000 years (NSW Government 2009). While Australia played a pivotal role in the uptake of cultural landscapes with the designation of Uluru Kata Tjuta, Kakadu and Budj Bim (Lennon, 2016), we suggest that this category has not been as widely acknowledged or taken up as it might have been, especially in an Australian context as the continent with the world's oldest living culture (NSW Government 2009). Out of the 20 World Heritage listed properties in Australia, 17 are listed for natural values but, arguably this does not reflect the cultural properties that many of these sites possess and only perpetuates the nature-culture dualism (Lennon, 2016; Skilton, Adams, & Gibbs, 2014). This can be partially attributed to the fact that the WH Committee uses two different independent advisory bodies, with the International Union for Conservation for Nature (IUCN) and the International Council on Monuments and Sites (ICOMOS) being responsible for assessing natural and cultural properties, respectively. For the most part (but not always), each agency acts separately and there is still a tendency for natural sites to be defined as ecologically intact or static landscapes that are absent from human use or changes (Allan et al., 2018; García-Esparza, 2018).

Giving greater recognition to the cultural values of the GBMWHa may require a genuine consideration of a renomination of the WH property. For the GBMWHa to be re-listed so as to recognise the cultural and biocultural dimensions would mean that the area is more than the rock art and engravings that formed the basis of the original world heritage nomination. Formal recognition as a cultural or biocultural landscape would better align more closely with First Nation practices. In its original WH nomination, in the EIS for the WDDP, and Aboriginal cultural heritage assessment, it was acknowledged that most of the rock art was in poor condition. While this may hold true due to the sheer abundance of rock art in the GBMWHa, it is an essential Aboriginal cultural practice to re-paint or re-groove under strict control of knowledgeable Elders. As a living culture, repainting is crucial to the transfer of knowledge to the younger generations and ensures the preservation of the sites. Accordingly, the GBMWHa is not an 'untouchable' site, and the protective inscription should reflect these living practices that create a biocultural landscape. We suggest the current approach that separates natural and cultural phenomenon highlights inadequacies in legislative terminology and perpetuates an unnecessary distinction between natural and cultural values, outlined by Carter (2010), Muller (2003) and Shultis and Heffner (2016), among others. Arguably, greater recognition of the rights and role of Traditional Owners in legal frameworks

would promote more effective land management practices and enable wider appreciation of Traditional knowledge (Muller, 2003).

It is also clear that an integrative, holistic landscape approach is important for First Nations stories to remain as intact as possible. The various sites in the Burratorang Valley might be more accurately presented if the area was defined as a cultural landscape, as this better reflects the holistic view that First Nation people hold. It was noted that the concentrations of sites at Gungalook and Commodore Hill, in particular, have an exceptional diversity of cultural sites and should have been evaluated in the Aboriginal heritage assessment as cultural landscapes. This recognition would be a contribution to the existing body of knowledge surrounding the traditional Aboriginal land use and how that can be compatible with 'wilderness' (Watson et al., 2011). This might prevent further destruction of sites of cultural significance.

Our concern in this paper arises because the GBMWHa is a natural property which meets the highest demands of integrity and authenticity for it to become an area of OUV but its cultural assets do not meet the same standards for designation (or they did not at the time of WH listing). In these circumstances we argue that short of a successful re-nomination to recognise GBMWHAs cultural and/or biocultural value, the area's cultural heritage importance must be better addressed. Sites of First Nation significance should not be overlooked in the legislative framework that enables such places to be conserved for future generations. WH recognition as a cultural or biocultural landscape would place additional pressure on the Australian federal government to echo these sentiments within the national legislative framework and aid in the preservation of First Nation places flowing through national, state, and local policy frameworks. Arguably, once the importance of First Nation perspectives *vis-à-vis* the cultural and biocultural heritage of this landscape is recognised, protected areas such as the GBMWHa can move towards becoming decolonised (Muller, 2003). Moreover, recognition of the cultural and biocultural heritage of the GBMWHa would also allay broader concerns about the deterioration of the property's natural attributes, for these become intrinsically linked in an enhanced appreciation of people/place connections that is enabled through a new approach.

## Conclusion

In addition to the natural values that are protected by the WH listing, the GBMWHa area has a history of First Nation site occupation extending at least 14,000 years (NSW DECC, 2009). Sites of cultural significance include the first region of occupation during the Pleistocene glacial period, engravings, grinding grooves, a concentration of unique stone arrangements and some of the most distinctive rock art incorporating the use of pigment and engraved forms including the Red Hands Cave (NSW DECC, 2009; NSW NPWS, 2001). Due in part to the remote and inaccessible nature of a large proportion of the GBMWHa, and in part to an inadequate approach within the EIS for the SEEP, archaeological surveys of the area have been limited. There is potential for many more important cultural/biocultural heritage sites to be yet uncovered. The potential adverse impacts of the WDDP are a topic of acute interest especially in the context of ongoing cultural heritage loss.

In Australia today, it has become clear that regulatory failures have resulted in a disproportionate number of First Nation places being degraded, if not lost entirely. The Juukan Gorge controversy highlights that destruction has been enabled by ill-fitting regulatory regimes (Borschmann et al., 2020; Hutchens, 2020). In this setting, we must work to better understand human-environment connections within protected places and showcase both the value of natural and cultural heritage assets (Gillespie, 2020). Such a process requires that we consider how communities value places in light of natural and cultural heritage perspectives. Considering increasing development means more critical reflection on these twinned values within our protected places is necessary.

While the GBMWHa is internationally recognised for the site's natural significance, it has become clear that the cultural value of the WH property requires serious re-consideration. Recognising the cultural and biocultural dimensions of the GBMWHa would also help with the better recognition of the crucial and ongoing role of First Nation people in Australia. The WDDP has brought the nature/cultural protective dichotomy embedded within protective regimes to a head.

## Notes

1. OUV refers to “cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity”, UNESCO, [https://whc.unesco.org/en/compendium/action=list&id\\_faq\\_themes=962#:~:text=%E2%80%9COutstanding%20Universal%20Value%20means%20cultural,future%20generations%20of%20all%20humanity.](https://whc.unesco.org/en/compendium/action=list&id_faq_themes=962#:~:text=%E2%80%9COutstanding%20Universal%20Value%20means%20cultural,future%20generations%20of%20all%20humanity.)
2. Archaeologically significant is a limiting factor for determining the extent of impact on Aboriginal sites. However, it is useful in this case as that was the number determined in the draft Environmental Impact Statement.
3. Another alternative that recognises the role of Indigenous people managing natural landscapes are ‘Indigenous Protected Areas’. However, this aspect will not be investigated in this paper. For further information see Muller (2003).

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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