Access relative to need for community conservation funding in Australia
Ainslee Meredith, Robyn Sloggett, Marcelle Scott

Abstract

The centralisation of major collecting institutions in urban areas has meant that, despite increasing public engagement, the conservation industry remains inaccessible to the majority of Australians. The ability to access services is determined by both spatial and aspatial factors. This paper focuses on geographic barriers as one factor determining the accessibility of conservation services in Australia. Using statistical analysis of the spatial distribution of 1323 local heritage conservation projects that have been funded by the National Library of Australia's Community Heritage Grants Program from 1994 to 2017 this study measures the spatial equality of conservation in Australia. Funded projects were categorised according to the 2011 Australian Statistical Geographic Standard (ASGS) Remoteness Structure to quantify them by degree of remoteness. Spatial distribution analysis indicates that the majority of projects are located in major cities, with proportionately fewer projects funded in regional, remote and very remote areas. An 'access relative to need' approach is proposed to counter the current centralisation of the Australian conservation industry, however the principles and methodology are globally relevant in accessing any geographically-determined inequity within the conservation sector.

Key words

cultural materials conservation
conservation policy
spatial equality
access relative to need
community collections

Introduction

This study employs spatial distribution methodology as a tool in understanding resource gaps and consequent risks to the preservation of cultural material. Utilising a longitudinal assessment of data available from 1994 to 2017, the study aligns geographic modelling with assessment of data from the Federal government grant program that delivers support for conservation to organisations across Australia. The methodology thus described is useful in understanding where funding is delivered, and what impacts may accrue as a result. It also assists in mapping risk and inequity within the current national distribution of, and access to, conservation services.

Across the world, the conservation industry has grown as part of the development of cultural institutions such as public museums, galleries, archives and libraries, collectively known as the GLAM sector. In Australia, as is the predominant situation elsewhere, these institutions, which receive public funding for their preservation of state and nationally owned cultural assets, are in the majority of cases located in urban areas. Those with in-house conservation departments can preserve materials on site, calibrate preservation and emergency response plans according to local needs and risks, and embed conservation practices and protocols within the organisation. Accordingly, state and national collections of movable heritage objects are well-preserved: in 2015–2016, with an annual conservation and storage budget of over \$300,000, the State Library of Victoria ‘preserved and conserved more than 45,000 items’ and ‘assessed and treated 185 newly acquired collections through the quarantine store’ (State Library Victoria 2016, 12-13). Collections which fall outside state or national custodianship, and which are located more diversely across Australia, face significant geographic, economic and professional barriers to conserving their objects. For many such collections, there is limited data that records object type, materials, condition, storage, custodianship, risks, and conservation status. Although these collections form an important part of the ‘distributed national collection’ of Australian movable heritage objects (Anderson 1997), there is no comprehensive register of collections and objects, nor an understanding of how collections and their needs for conservation services are spatially distributed in relation to risks.

Eighty-five years ago, Markham and Richards (1933) identified risks to regional collections in Australia based on insufficient funding, inappropriate storage and materials, and widespread loss and damage. These risks were reiterated by the Committee of Inquiry on Museums and National Collections in their 1975 *Museums in Australia* report, and remain generally unmitigated in a climate of increased centralisation and rural disinvestment. With little expectation of ongoing public funding, collections in regional and remote areas must rely on sporadic grants through competitive state programs. These include Heritage Victoria’s Living

Heritage Grants, the Public Record Office Victoria's Local History Grants, New South Wales' Heritage Grant Scheme, and ArtsQueensland's Infrastructure Fund. The largest source of funding for the preservation of movable heritage objects is the National Library of Australia's Community Heritage Grants program, funded by the Australian Government. Since 1994, it has provided over \$6.5m for the preservation of publicly accessible heritage materials which are 'locally owned, but nationally significant' (National Library of Australia 2017a).

Community Heritage Grants provide support to community organisations for significance assessments of collections, preservation needs assessments of collections, conservation activities and collection management, and training workshops. Each year, the successful applications are promoted through the National Library of Australia's website, thus providing a rigorously produced and analytically useful dataset on patterns in public funding for conservation. This information can then be utilised to effectively map the spatial distribution of access to conservation services beyond the major collecting institutions.

Accessibility in conservation policy

Preservation and access have been linked in Australian conservation policy since the 1970s, with the 1975 *Museums in Australia* (Pigott Report) proposing that museums, through preserving cultural heritage, should aim to 'arouse curiosity', 'educate formally and informally', 'extend the front-lines of knowledge' and, lastly, 'entertain people of all ages' (Pigott 1975, 6). This theme is evident in more recent conservation policy, as Sloggett (2016, 119) details: 'The Pigott Report drew on the two informing principles of access and preservation, and the 1995 National Conservation Policy reflected this focus with five of the ten policy statements linking access and preservation as key issues'. Public collecting institutions also align preservation and access to make claims about public ownership, for example, the National Gallery of Victoria declares (2017, n.p.): 'It is a collection that is yours, and it's free!'; and to emphasise the 'sense of belonging' and other social benefits that can arise from accessing cultural collections (Museum Victoria 2013, 3).

Internationally, access to cultural materials is also posited as a key outcome of preservation. In 2008, the International Council of Museums – Committee for Conservation adopted a definition of conservation as 'all measures and actions aimed at safeguarding tangible cultural heritage while ensuring its accessibility to present and future generations' (ICOM-CC 2008). Conservation literature engaging with questions of access explores the ability of conservators to enable object-handling in institutions through touch (Candlin 2010; Chatterjee 2010), and the emphasises the social benefits of conservation for non-professionals (Saunders 2014).

While a strong basis has been established for increasing access in relation to objects in cultural

institutions, there is a need to consider the accessibility of conservation resources outside of these institutions. By continuing to conceptually, practically and spatially align conservation with cultural institutions, the risk, as Hall warned in 1999, is that the cultural productions of communities go ‘unrecorded and unanalysed’, thus diminishing cultural repertoires (13). Assessing the availability of conservation knowledge, within a service industry model (Sloggett 2016), on the other hand, invites an analysis of both the spatial and aspatial determinants of accessibility, and the distribution of conservation services across community demographics.

Access relative to need

Access to key services such as health, education and justice is determined by a variety of factors which affect entry into or use of a system. These factors have been defined as availability, accessibility, accommodation, affordability and acceptability (Penchansky and Thomas 1981). In non-urban places, the availability or geographic distance of services is one of several social determinants of health, intersecting with factors such as education, occupation, income, early childhood development, social capital, employment, housing and environment to create health inequities (Australian Institute of Health and Welfare 2016). The public health field has adapted this model to address the needs of different populations such as Indigenous Australians, for whom the cultural acceptability of a health service is a determinant of service use (Healy and McKee 2004; Ware 2013). To improve the accessibility of health services and mitigate the effects of spatial inequality, movements for ‘territorial justice’ attempt to address these linked social factors (Humphreys and Dixon 2004). This is translated into an ‘access relative to need’ policy approach and geospatial index by the Australian Institute of Health and Welfare (2014) to address inequities in service provision and health outcomes for Indigenous Australians.

Access relative to need may be extended from the health sector to cultural heritage and conservation. Chandler and LaLonde (1998) have identified seven factors in ensuring cultural continuity for First Nations communities: self-government, land claims, education, health care, cultural facilities, police and fire services, and language. The authors identify language use as having significant predictive power of health and wellbeing for First Nations communities in Canada (Hallett, Chandler, and LaLonde 2007). The combination of these ‘protective’ factors has been correlated with lower youth suicide rates in Canada, indicating that ‘individual and cultural continuity are strongly linked’ through the mechanism of cultural preservation (Chandler and LaLonde 2008, 72). While a causal link between access to cultural heritage and health outcomes is yet to be established, the potential for conservation to strengthen societies, by supporting cultural continuity through the preservation of material and intangible culture, deserves greater attention.

Mapping conservation

Recent quantitative projects have sought to understand the spatial distribution of museums in the UK (Candlin 2017; Davies and Lima 2017), the effects of ‘museum clusters’ on tourism in urban centres such as London (Zhang et al. 2017), and the spatial analysis of museums for tourism planning in Turkey (Kervankiran, Temurcin and Yakar 2016). However, these projects have a strong institutional focus, and do not attempt to map access to conservation services outside of museums. No such study has been undertaken of the distribution of conservation services in Australia. A spatial analysis is, therefore, warranted to measure the geographic accessibility of the system, and to lay the groundwork for future studies of aspatial factors influencing access to conservation. The work of mapping access will continue into the mapping of risk, as it is likely that places with low access to conservation services will be at a greater risk of loss or destruction of heritage due to environmental, social and cultural factors.

Methodology

This research identified and analysed the spatial distribution of Community Heritage Grants, employing the Accessibility/Remoteness Index of Australia (ARIA+) methodology developed by Professor Graeme Hugo at the University of Adelaide. ARIA+ is a geographic measure of remoteness which is determined by calculating the remoteness of a given place by physical road distance to the nearest Urban Centre with an aggregate population of over 1000 persons (Australian Bureau of Statistics 2013). Since 2001, ARIA+ has been used as the basis for the Australian Bureau of Statistics' Australian Standard Geographical Classification (ASGC), now the Australian Statistical Geography Standard (ASGS) (Australian Bureau of Statistics 2013). Research drawing on ARIA+ spans the health, education, environment, climate change, and regional development sectors (Taylor and Lange 2016). One previous study in the arts sector utilises ARIA+ categories to study the social and economic impact of arts participation in rural communities (McHenry 2009).

Some important methodological limitations need to be stated. The case study is limited to one program and so can only provide a representative picture of the spatial distribution of community conservation funding as determined by the Community Heritage Grants program in Australia. The publically available datasets exclude unsuccessful funding applications. Access to these was not requested, as the aim is not to investigate applications nor individual funding decisions made in a given year, but to understand patterns over time. It is also the case that organisations in urban areas may be over-represented due to external factors. More applications for funding are likely to be made from organisations in major cities due to aspatial factors such as population (and collection) density, education level and socio-economic status, leading to a higher proportion of urban-based projects. It is the case, however, that figures for the quantification of distributed cultural material are not readily available, and therefore it cannot be assumed that this statistical bias to urban areas relates either to need or to amount. The following analysis focuses on the spatial distribution of project funding and omits aspatial factors that influence access to a service, with the exception of a category for Indigenous Australian collections and materials. Finally, the Accessibility/Remoteness Index of Australia (ARIA+) only provides data on geographic accessibility. ARIA+ does not measure other factors, such as the 'availability' relationship between service availability and need (Penchansky and Thomas 1981). The extent of need for conservation services cannot, therefore, be fully reflected in data delimited to the successful recipients of a competitive grant process.

Statistical analysis of recipients by location

A dataset of Community Heritage Grant recipients for each year from 1994 to 2017 was downloaded from the National Library of Australia website and saved as a comma-separated values (.csv) file (NLA 2017). The datasets provide the name of the organisation receiving funding; the year; the state; the funding amount; and the project description. For the purposes of this case study, additional data for each recipient was needed: address, latitudinal and longitudinal coordinates, Remoteness Area category, funding type, and if the collection or project included Indigenous materials.

The 2011 Australian Statistical Geographic Standard (ASGS) Remoteness Structure was used to determine the relative remoteness of each organisation.¹ Published by the Australian Bureau of Statistics (ABS), the ASGS Remoteness Structure provides a geographical standard for the publication of statistics by relative remoteness. Covering the whole of Australia, it divides each state and territory into five Remoteness Area classes (RAs 0–4) based on their relative access to services (ABS 2013). The Remoteness Structure categorisation is based on the Accessibility/Remoteness Index of Australia (ARIA+) developed in 2000 by the then Commonwealth Department of Health and Aged Care (DHAC) and the National Key Centre for Social Applications of GIS (GISCA). ARIA+ measures the remoteness of a point based on the physical road distance to the nearest Urban Centre in each of five size classes (Australian Bureau of Statistics 2013).

To assign each recipient a Remoteness Area category, a search was conducted for the suburb or locality's Statistical Area Level 1 (SA1) code using a data cube published by the ABS (2016). The SA1 code was then used to find the Remoteness Area for each recipient's suburb or locality. The 2011 Remoteness Areas for Australia are: RA0: Major Cities of Australia; RA1: Inner Regional Australia; RA2: Outer Regional Australia; RA3: Remote Australia; RA4: Very Remote Australia. Remoteness classifications were verified by searching by address on the Australian Government Department of Health DoctorConnect website, which identifies Remoteness Areas using a Google Map interface (Australian Government Department of Health 2017).

Addresses for recipients were found on organisations' websites. For recipients without websites, Google Maps was used to find addresses. For recipients without identifiable

¹ The 2016 Australian Statistical Geography Standard (2016 ASGS) was yet to be released at the time of writing. The ASGS Volume 5: Remoteness Structure is due to be released in early 2018.

addresses, or with PO Box addresses only, the closest identifiable suburb or locality was used. Addresses were input into Google Maps to calculate the geo-coordinates for each organisation. As the data covers a twenty-four year range, some organisations have changed location or since closed. Attempts have been made to find correct addresses for each funding year; however, if these are not identifiable, current addresses have been used.

As well as the potential for organisations to have relocated their collections, measurements of remoteness are subject to change. The ABS (2013, 6) notes that ‘remoteness is dynamic’ and ‘generally declines over time as new services are built and the road network is improved’. The data units which make up the RAs also change with settlement patterns, and the Community Heritage Grant dataset begins seven years prior to the first ARIA+ in 2000. Despite this, it is possible to undertake comparative studies of remoteness as the methodology defining RAs has not undergone substantive change (Australian Bureau of Statistics 2013, 6).

Mapping by funding type

Based on the project description provided by the NLA, the funding type of each project was classified as SA (significance assessment), PN (preservation needs assessment), CN (conservation activities) or TR (training). If a recipient was awarded funding for multiple projects in a single funding round, a combined classification was used (e.g. SA/PN). The conservation activities category was further divided into the categories of collection management (CN-COL), materials (CN-MAT), treatment (CN-TRT) and digitisation (CN-DIG). Again, if funding was awarded for multiple projects, a combined classification was used (e.g. CN-MAT/TRT).

A map was created of the spatial distribution of Community Heritage Grants using Leaflet, an open source JavaScript library for web mapping, and Atom, an open source text and source code editor. The geocoded .csv files for each year were converted to GeoJSON files and overlaid on an OpenStreetMap base map tile layer to produce the map in Figure 2.

Results

From 1994–2017, a total of 1323 projects were funded through the Community Heritage Grants program. By assigning each project recipient a Remoteness Area category, and identifying projects that intend to conserve Indigenous Australian materials and collections, a statistical overview is provided of the spatial distribution of community conservation funding patterns (Table 1).

Project type

Significance Assessments accounted for 29% (N=424) of projects receiving funding; Preservation Needs Assessments for 30% (N=436); conservation activities (broadly defined) for 31% (N=451); and training projects for 10% (N=152). The distribution of project type is consistent across each Remoteness Area category.

Table 1: Comparison of Community Heritage Grant project distribution (1994–2017) by Remoteness Area and Indigenous Australian collections

	<i>All projects (N)</i>	<i>Indigenous Australian</i>	<i>RA0: Major cities</i>	<i>RA1: Inner regional</i>	<i>RA2: Outer regional</i>	<i>RA3: Remote</i>	<i>RA4: Very remote</i>
<i>Total²</i>	100% (1323)	100% (97)	100% (700)	100% (320)	100% (173)	100% (64)	100% (66)
Significance Assessment	29% (424)	30% (32)	29% (224)	30% (107)	27% (52)	28% (20)	29% (21)
Preservation Needs Assessment	30% (436)	25% (26)	30% (232)	32% (113)	28% (55)	27% (19)	23% (17)
Conservation	31% (451)	34% (36)	31% (236)	29% (98)	32% (63)	38% (27)	37% (27)
Training	10% (152)	11% (12)	10% (76)	11% (39)	12% (24)	7% (5)	11% (8)

² Many organisations received funding for combined projects (e.g. Significance Assessment and Preservation Needs Assessment) in the same round. These are counted as single projects in the total figures, but disaggregated in the subtotals for each category. Thus, total figures reflect the number of successful projects which includes combined projects.

Over time, the proportion of conservation type projects has reduced by two-thirds of total projects from 67% in 1994 to 23% in 2017. This corresponds to a rise in significance assessments in the early 2000s following the publication of *Significance – a guide to assessing the significance of cultural heritage objects and collections* (Heritage Collections Council 2001). The influence of these cultural policy documents is evident. In 2003, 30 conservation projects were funded, compared to 1 significance assessment and 20 preservation needs assessments. Following the publication of the revised edition of *Significance 2.0* (Collections Council of Australia 2009), in 2010 and 2011 an average of 37 significance assessments were funded, double the number of conservation projects (17 in 2010 and 20 in 2011) (Figure 1).

Figure 1: Percentage distribution of Community Heritage Grants by project type over time (1994–2017)

Conservation projects

For projects within the conservation category, 10% (N=53) funded were collection management activities (including software purchases and upgrades, policy developments, documentation and transcribing), 50% (N=263) materials purchases (including archival materials and equipment, environmental monitoring equipment, and upgrades of storage and shelving), 26% (N=137) conservation treatments (covering diverse activities such as preservation, restoration, duplication, reformatting, microfilming, and cleaning and

rehousing), and 14% (N=74) digitisation projects (Table 2). Of total funding, conservation treatments comprise 8% of projects funded.

Funding amounts range from \$470 for archival storage materials for the Deaf Society of New South Wales in 2013 to \$15,000 for the digitisation of audio tapes for the Lu Rees Archives at the Children's Book Council ACT in 2012 (National Library of Australia 2012, 2013). Projects receiving the highest monetary amounts (over \$10,000) were for conservation, training, or combined significance or preservation assessments of multiple collections. This reflects the higher cost of funding conservation and training compared to significance and preservation assessments. Such assessments can be undertaken for a standard fee of \$4500, with higher amounts to cover consultants' costs for collections in regional and remote areas (National Library of Australia 2017c, 2017d) unlike the more variable conservation and training projects, where funding depends on the collection scale, the materiality and condition of objects, and the knowledge, experience and needs of custodians.

Table 2: Comparison of Community Heritage Grant distribution for conservation projects (1994–2017)

	<i>All projects (N)</i>	<i>Indigenous Australian</i>	<i>RA0: Major cities</i>	<i>RA1: Inner regional</i>	<i>RA2: Outer regional</i>	<i>RA3: Remote</i>	<i>RA4: Very remote</i>
<i>Total³</i>	<i>100% (527)</i>	<i>100% (41)</i>	<i>100% (277)</i>	<i>100% (119)</i>	<i>100% (69)</i>	<i>100% (33)</i>	<i>100% (29)</i>
Conservation – Materials	50% (263)	24% (10)	50% (138)	50% (60)	57% (39)	33% (11)	52% (15)
Conservation – Collection Management	10% (53)	10% (4)	9% (26)	12% (14)	6% (4)	15% (5)	14% (4)
Conservation – Treatment	26% (137)	24% (10)	28% (77)	24% (29)	30% (21)	18% (6)	14% (4)
Conservation – Digitisation	14% (74)	42% (17)	13% (36)	13% (16)	7% (5)	33% (11)	21% (6)

³ The total figures presented here are higher than the conservation category totals in Table 1. This is due to the disaggregation of the conservation category into four project types. Projects which received combined funding in the same year have been counted twice, producing higher figures once re-aggregated.

Indigenous materials and collections

Indigenous Australian materials and collections account for 7% (N=97) of successful projects (Table 1). These included grants to support Aboriginal art centres, land councils, language and culture centres, corporations, and religious groups, as well as sub-collections of non-Indigenous organisations. It is not clear from the statistics, however, what the percentage of Indigenous material that receives support is located within regionally, and how much within major urban centres. By project type, the distribution of Indigenous projects is consistent with the overall distribution of CHG projects, with a slightly higher proportion of projects in the conservation category (34%, N=36). Focusing on conservation projects, a far higher proportion of funding is provided for digitisation projects (42%, N=17) compared to the national average (14%). Digitisation may be prioritised for its capacity to both preserve and make accessible collection materials (Ormond-Parker and Sloggett 2012), the need to overcome the ‘digital divide’ between Indigenous and non-Indigenous Australians (Samaras 2005, 84); and to enable ‘virtual repatriation’ in cases where institutions refuse to repatriate original materials (Nakata et al. 2008, 226).

Remoteness Area

Analysing the data on CHG recipients by applying ASGS Remoteness Area categories shows the spatial distribution of participants and projects (Table 3). The majority of projects funded (53%, N=700) were located in RA0: Major cities. Proportionally fewer projects were funded in RA1: Inner regional areas (24%, N=320), RA2: Outer regional areas (13%, N=173), RA3: Remote areas (5%, N=64) and RA4: Very remote areas (5%, N=66).

Table 3: Spatial distribution of Community Heritage Grant projects (1994–2017)

<i>Remoteness Area</i>	<i>ACT</i>	<i>NSW</i>	<i>QLD</i>	<i>VIC</i>	<i>TAS</i>	<i>SA</i>	<i>NT</i>	<i>WA</i>	<i>Norfolk Island</i>	<i>Total</i>
RA0: Major cities	37	222	64	209		88		80		53% (700)
RA1: Inner regional		111	44	87	52	21		5		24% (320)
RA2: Outer regional		40	45	12	14	27	11	24		13% (173)
RA3: Remote		7	5		3	4	22	23		5% (64)
RA4: Very remote		1	9		7	4	21	17	6	5% (66)
<i>Total</i>	37	381	167	308	76	144	54	149	6	100% (1323)

Table 4: Spatial distribution of Community Heritage Grant projects for Indigenous organisations and projects (1994–2017)

<i>Remoteness Area</i>	<i>Indigenous organisations and projects</i>	<i>All projects</i>	<i>Percentage of total area distribution for Indigenous organisations and projects</i>
RA0: Major cities	16% (16)	700	2%
RA1: Inner regional	7% (7)	320	2%
RA2: Outer regional	10% (10)	173	6%
RA3: Remote	30% (29)	64	45%
RA4: Very remote	36% (35)	66	53%
<i>Total</i>	<i>100% (97)</i>	<i>1323</i>	<i>7%</i>

However, 66% of Indigenous projects funded were for organisations located in RA3 or RA4 areas (Table 4). This reflects underlying population trends, with 6.2% of Indigenous Australians living in RA3 areas and 12.2% living in RA4 areas, compared to 1% and 0.4% of non-Indigenous Australians respectively (Australian Bureau of Statistics 2018). The 2016 *State of the Environment* report on heritage describes the ‘recognised gap’ between Indigenous and non-Indigenous Australians in terms of access to heritage places, the pursuit of traditional practices, and the mitigation of risks to heritage (Mackay 2017, 25). This inequity is reflected in the low proportion (7%) of Community Heritage Grants provided for Indigenous collections and organisations across all areas (7% of total funding, N=97). While statistics on the funding for Indigenous-run collections and projects to conserve Indigenous materials in non-Indigenous institutions have been amalgamated here, an important distinction must be made between these collection types. Preserving Indigenous materials in non-Indigenous spaces may impede the economic, social, cultural, environmental and health benefits of conservation from being delivered to, or being developed in the community from which the material originates.

Figure 2: Map showing the spatial distribution of Community Heritage Grants by ASGS Remoteness Area (1994–2017)

Factoring remoteness classification into our analysis of project type shows differences between the types of conservation projects funded in urban, regional and remote areas (Table 1, Table 2). Collections in the most remote areas are more likely to receive funding for conservation projects (38% in RA3: Remote and 37% in RA4: Very remote areas, compared to an average of 31%), but the type of conservation project also varies by location. In remote areas, conservation funding is more likely to be utilised for digitisation projects (33% of projects in RA3 and 21% in RA4), compared to the national average of 14%. These areas received less funding for conservation treatments (18% and 14% respectively), compared to the national average of 26%. Across the twenty-four years of funding, only ten conservation treatment projects combined were funded in the most remote areas, RA3 and RA4 (Table 2).

Funding patterns

Since 1994, a total of 309 organisations have received funding across multiple rounds, and 504 received funding in a single round only. The Community Heritage Grant program encourages applicants to follow a three-step process – a significance assessment followed by a preservation needs assessment, before conservation activities – but not all organisations progressed through

multiple rounds in this way. For example, the Benedictine Community of New Norcia (WA) received funding for conservation materials and treatments in 1998, 1999, 2003 and 2007, before a significance assessment (2011) and preservation needs assessment (2012). Of those successful in multiple rounds, 69 (22%) followed the three-step process. The spatial distribution of organisations funded in more than one round was consistent with the overall distribution (Table 3).

These figures can only provide estimates of project progression, as organisations may receive funding through other sources. However, as an indication of broader trends in the Australian conservation industry, one-off project funding appears to be dominant, despite the efforts to develop sequential project stages.

Discussion

Spatial distribution of conservation services

Statistical analysis of the Community Heritage Grants indicates that there is significant spatial variability in community conservation projects, with fewer projects funded in regional and remote areas of Australia compared to urban centres, and a lower proportion of conservation treatments funded in remote and very remote areas. Levels of access to conservation are inversely correlated to remoteness, as the number of community conservation projects decreases with an increase in remoteness; a low proportion of projects were provided for collections of Indigenous materials. This unequal spatial distribution of funding reinforces pre-existing inequities in terms of who is able to access conservation services.

The theoretical models developed by cultural geographers to study spatial inequality are useful in understanding the causes and effects of uneven access to conservation. Spatial inequality combines the study of social inequality with the geographic concept of uneven development (Lobao, Hooks, and Tickamyer 2007). As developed by Marxist geographers in the 1970s (Harvey 1973; 1982), the model of spatial inequality conceptualises space ‘specifically in terms of power-filled social relations, [rather] than simply as patterns and distributions of atomised objects’ (Massey 1995, 3). Applied to the distribution of conservation funding, spatial inequality models demonstrate that disparity in investment is ‘structural rather than statistical’ (Smith 2008, 4). As a result, the traditional distribution of conservation capital is maintained, as funding priorities do not account for intersecting forms of spatial, economic, social and cultural disadvantage. The forms of cultural, social and economic capital associated with the conservation of heritage are not significantly redistributed by current funding structures, despite intentions to bolster conservation in regional and remote areas.

From spatial inequality to spatial justice

Spatial inequality in the conservation sector has broader ramifications due to the loss of potential benefits derived from conservation. The economic value of access to heritage has been extensively documented (Throsby 2001). The social benefits include a connection with others and sense of identity (Throsby 2000), and ‘place attachment’ in built and environmental heritage (Low 2002). Cultural benefits include securing a cultural repertoire from which new works can be created (Hall 1999), and sustaining and transmitting cultural identity, symbolic meanings, and aesthetic values (Throsby and Zednik 2014). While the environmental benefits of heritage are clearly articulated for built or natural heritage (Satterfield 2002), the potential for movable object preservation to contribute to environmental sustainability deserves greater

attention. Similarly, the health benefits of conservation could be elicited along the lines of research into language continuity and wellbeing in Indigenous and First Nations communities (Hallett, Chandler, and LaLonde 2007).

Conservation is integral to enabling and sustaining access to cultural objects over time. Currently, communities in regional and remote areas of Australia without equal access to conservation services, knowledge, skills and resources are also prevented from developing the capacity to enjoy the benefits enabled by conservation. Without conservation, communities are impeded from transmitting cultural identity, from benefitting economically from their heritage, and from promoting social capital and social change through culture and heritage. The need for conservation resources is amplified for Indigenous Australian collections, where the links between place-based collection and cultural continuity are highlighted in a recent Arnhem, Northern and Kimberley Artists Aboriginal Corporation (ANKA) survey of the major needs of Aboriginal Art Centres (Scott 2017). Human health and environmental inequities are also socially and spatially determined, with the health status of Indigenous and First Nations peoples consistently lower than that of the non-Indigenous population following colonisation (de Leeuw, Lindsay, and Greenwood 2015). Addressing the social determinants of health inequality must take into account the effects of cultural and linguistic continuity on the wellbeing of Indigenous and First Nations people (Colquhoun and Dockery 2012).

Low access to conservation intersects with aspatial factors to disadvantage communities based on geographic location. The spatial justice theorist Soja (2010, 14) argues for the primacy of socio-spatial forces in effecting change over time in economic, technological and cultural arenas. Spatial, territorial and environmental justice movements seek to spatialise issues of structural inequality to reveal the socio-spatial distribution of advantages and disadvantages. These theoretical models help to situate the analysis of levels of access to conservation in a broader context, so that distributional inequalities can be seen as ‘the more visible outcome of deeper processes of spatial discrimination’ (Soja 2010, 47).

An ‘access relative to need’ approach for conservation

The author and activist bell hooks (2009, 23) writes of place-based communities as providing a ‘culture of belonging’. Heritage objects, as the material evidence of past and living cultures, support and extend this culture and right of belonging. It is for this reason that the unequal spatial distribution of conservation in Australia matters: both objects and communities are produced by and productive of specific places. The current spatial patterns of community conservation services in Australia reproduce a urban/rural division in which there is

significantly less conservation of heritage in regional and remote areas, despite the wealth of cultural material held outside of major cities. There is an empirical economical basis for the claim that greater equity produces greater efficiency (Klasen 2010). An 'access relative to need' approach, combining equity and efficiency, is required manage the conservation needs and risks of the distributed national collection.

Adapting the concept of 'access relative to need' from healthcare to conservation policy provides a multidimensional framework for exploring the impact of unequal access in the conservation industry. Indices that measure 'access relative to need' incorporate data on the need for a service as well as access to identify populations who require greater access to a service (Australian Institute of Health and Welfare 2014, 1). It is important to address not only 'how equally resources are distributed within a particular place', but 'how resources and risks vary across places' (McLaughlin et al. 2007, 143). The need for conservation services in regional and remote areas may be greater than in urban areas for several reasons. These include, but are not limited to: the absence of prior conservation engagement, collection surveys, and qualitative research to understand the needs of collections in these areas; the huge amount of irreplaceable material held in collections without current conservation plans; the importance of conserving and storing Indigenous materials in communities to support self-determination in relation to Indigenous heritage; and spatial variations across Australia of risks to collection materials by fire, flood, heat, humidity, custodial neglect and unsuitable and inadequate infrastructure.

Conclusion

This study focuses on spatial accessibility to conservation as one factor hypothesised to influence the overall state of Australia's distributed national collection. It applies cultural and statistical geographic methods to understand collections and their preservation at a broader spatio-temporal scale than the traditional approach in the conservation case study literature of studying singular objects or collections.

As demonstrated, access to conservation services is not equitably shared among people living in urban, regional and remote areas of Australia. Statistical analysis of conservation funding data obtained from the Community Heritage Grants program shows that over twenty-four years, more projects were funded in major cities than in all other areas combined. Remote and very remote areas, where the population of Indigenous Australians is highest, received the least funding. The type of project funded also varied geographically. While significance assessments and training projects were evenly distributed, a higher proportion of preservation needs projects were funded in urban areas, compared to more conservation projects in remote areas. However, further analysis showed that conservation projects in these areas – especially for Indigenous Australian collections – tended to be for digitisation projects and the purchase of materials, rather than for conservation treatment. By judging applications primarily on the merits of the proposal (National Library of Australia 2017b), the Community Heritage Grants program does not accommodate inherent inequity. Valorising national significance, the funding criteria purposefully filter out collections with 'local or regional significance' (National Library of Australia 2017b). This means that spatial and aspatial factors impeding access to conservation are not mitigated in current policy and a historically inequitable system is reproduced.

An 'access relative to need' approach, by contrast, recognises the greater need for conservation services in regional and remote areas to mitigate loss and damage to cultural material. Community collections, perhaps more so than larger institutions, are created and maintained in response to the needs and identities of place-based communities. For Indigenous Australian collections in particular, place-based conservation is needed as 'the significance of community collections is directly related to their on-country location, and strengthened by continuing links to the people who made them, and their descendants' (Scott 2017, 7). As this study demonstrates, however, they are at a significant disadvantage in terms of accessing conservation services. Consequently, regional, remote and Indigenous collections carry a disproportionate burden of risk for the distributed national collection, while also being

excluded from enjoying the social, cultural and economic benefits derived from securing the continuity of objects.

Broader access to conservation is thus warranted for several reasons: the benefits associated with preserving culture can be more widely enjoyed; risks to collection materials can be shared across the population; the overall rate of cumulative loss and damage may be slowed; and Australia's distributed national collection will be preserved more efficiently. By refuting a centre-periphery model, conservators will be able to better respond to the needs of, and risks to, diverse collections, while also relocating the place of conservation from the laboratory to the community.

References

Anderson, Margaret. 1997. *Material Culture and the Cultural Environment: Objects and Places*. Australia: State of the Environment Technical Paper Series (Natural and Cultural Heritage). Canberra: Environment Australia.

Australian Bureau of Statistics. 2013. *Australian Statistical Geography Standard (ASGS): Volume 5—Remoteness Structure*, Catalogue No. 1270.0.55.005. Canberra: Australian Bureau of Statistics.
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1270.0.55.005July%202011>.

Australian Bureau of Statistics. 2018. “2016 Census Counts - Aboriginal And Torres Strait Islander Peoples (By Remoteness Area).” Australian Bureau of Statistics. Accessed July 23 2018.
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/2075.0Main+Features202016?OpenDocument>.

Australian Government Department of Health. 2017. “DoctorConnect: ASGS Remoteness Areas (2011).” Australian Government Department of Health. Accessed 1 September 2017.
http://doctorconnect.gov.au/internet/otd/publishing.nsf/Content/ASGSRA_locator.

Australian Institute of Health and Welfare. 2014. *Access to Primary Health Care Relative to Need for Indigenous Australians*, Cat. no. IHW 128. Canberra: Australian Institute of Health and Welfare.
<https://www.aihw.gov.au/reports/indigenous-australians/access-to-primary-health-care-relative-to-need/>.

Australian Institute of Health and Welfare. 2016. *Australia's Health 2016. 4.1 Social Determinants of Health*. Canberra: Australian Institute of Health and Welfare.
<https://www.aihw.gov.au/getmedia/11ada76c-0572-4d01-93f4-d96ac6008a95/ah16-4-1-social-determinants-health.pdf.aspx>.

Candlin, Fiona. 2010. *Art, Museums and Touch*. Manchester: Manchester University Press.

Candlin, Fiona. 2017. “Mapping Museums: Why bother?” *Mapping Museums*, September 18.
<http://blogs.bbk.ac.uk/mapping-museums/2017/09/18/mapping-museums-bother/>.

Chandler, Michael J., and Christopher Lalonde. 1998. "Cultural Continuity as a Hedge against Suicide in Canada's First Nations." *Transcultural Psychiatry* 35 (2): 191-219. doi:10.1177/136346159803500202

Chandler, Michael J., and Christopher Lalonde. 2008. "Cultural Continuity as a Protective Factor against Suicide in First Nations Youth." *Horizons* 10 (1): 68-72.

Chatterjee, Helen, ed. 2010. *Touch in Museums: Policy and Practice in Object Handling*. Oxford: Berg.

Collections Council of Australia. 2009. *Significance 2.0: A Guide to Assessing the Significance of Collections*. Canberra: Collections Council of Australia. <https://www.arts.gov.au/sites/g/files/net1761/f/significance-2.0.pdf>.

Colquhoun, Simon, and Alfred Michael Dockery. 2012. "The Link between Indigenous Culture and Wellbeing: Qualitative Evidence for Australian Aboriginal Peoples." CLMR Discussion Paper Series 2012/1. Perth: Centre for Labour Market Research, Curtin Business School. <https://www.ncsehe.edu.au/publications/indigenous-culture-wellbeing/>.

Davies, John, and Antonio Lima. 2017. "The Museums Map: Mapping Access to England's Museums". *Nesta*, 14 March. <https://www.nesta.org.uk/blog/museums-map-mapping-access-englands-museums>.

de Leeuw, Sarah, Nicole Marie Lindsay, and Margo Greenwood. 2015. "Introduction: Rethinking Determinants of Indigenous Peoples' Health in Canada." In *Determinants of Indigenous Peoples' Health in Canada: Beyond the Social*, edited by Margo Greenwood, Sarah de Leeuw, Nicole Marie Lindsay, and Charlotte Reading, xi-xxix. Toronto: Canadian Scholars' Press.

Hall, Stuart. 1999. "Whose heritage?: Unsettling "The Heritage", Reimagining the Post-nation." *Third Text* 13 (49): 3-13. doi:10.1080/09528829908576818

Hallett, Darcy, Michael J. Chandler, and Christopher LaLonde. 2007. "Aboriginal Language Knowledge and Youth Suicide." *Cognitive Development* 22 (3): 392-399. doi:10.1016/j.cogdev.2007.02.001

Harvey, David. 1973. *Social Justice and the City*. London: Edward Arnold,.

Harvey, David. 1982. *The Limits to Capital*. Oxford: Basil Blackwell.

Healy, Judith, and Martin McKee. 2004. "Delivering Health Services in Diverse Societies." In *Accessing Health Care: Responding to Diversity*, edited by Judith Healy and Martin McKee, 351-369. Oxford: Oxford University Press.

Heritage Collections Council. 2001. *Significance - a guide to assessing the significance of cultural heritage objects and collections*. Canberra: Commonwealth of Australia.

hooks, bell. 2008. *Belonging: A Culture of Place*. London: Routledge.

Humphreys, John S., and Jane Dixon 2004, "Access and Equity in Australian Rural Health Services." In *Accessing Health Care: Responding to Diversity*, edited by Judith Healy and Martin McKee, 89-107. Oxford: Oxford University Press.

ICOM-CC. 2008. *Terminology to Characterize the Conservation of Tangible Cultural Heritage*. Paris: International Council of Museums – Committee for Conservation. Accessed May 11 2018. <http://www.icom-cc.org/54/document/icom-cc-resolution-terminology-english/?id=744>.

Kervankiran, Ismail, Kadir Temurcin, and Mustafa Yakar. 2016. "The Development of Museology in Turkey, a Spatial Analysis of Museums and their Contribution to Tourism in Turkey." *AlmaTourism* 7 (13): 1–22. doi:10.6092/issn.2036-5195/6010

Klasen, Stephan. 2010. "The efficiency of equity." In *Ethics and Economics: New Perspectives*, edited by Mark D. White and Irene van Staveren, 226-243. London: Routledge.

Lobao, Linda M., Gregory Michael Hooks, and Ann R. Tickamyer, eds. 2007. *The Sociology of Spatial Inequality*. Albany: State University of New York Press.

Low, Setha. 2002. "Anthropological-Ethnographic Methods for the Assessment of Cultural Values in Heritage Conservation". In *Assessing the Values of Cultural Heritage: Research Report*, edited by Martin de la Torre, 31-50. Los Angeles: Getty Conservation Institute.

Mackay, Richard. 2017. *Australia State of the Environment 2016: Heritage*, independent report to

the Australian Government Minister for the Environment and Energy. Canberra: Australian Government Department of the Environment and Energy. doi:10.4226/94/58b658bbe13a0

Markham, S. F., and H. C. Richards. 1933. *A Report on the Museums and Art Galleries of Australia*. London: The Museums Association.

Massey, Doreen. 1995. *Spatial Divisions of Labour: Social Structures and the Geography of Production*. 2nd edn. New York: Routledge.

McHenry, Julia Anwar. 2009. "A Place for the Arts in Rural Revitalisation and the Social Wellbeing of Australian Rural Communities." *Rural Society* 19 (1): 60-70. doi:10.5172/rsj.351.19.1.60

McLaughlin, Diane K, C. Shannon Stokes, P. Johnelle Smith, and Atsuko Nonoyama. 2007. "Differential mortality across the United States: The influence of Place-based inequality." In *The Sociology of Spatial Inequality*, edited by Linda M. Lobao, Gregory Michael Hooks, and Ann R. Tickamyer, 141-162. Albany: State University of New York Press.

Museum Victoria. 2013. *Strategic Plan 2013–18*. Melbourne: Museum Victoria. https://museumsvictoria.com.au/media/4016/mv_strategic_plan_2013-18.pdf.

Nakata, Martin, Vicky Nakata, Gabrielle Gardiner, Jill McKeough, Alex Byrne, and Jason Gibson. 2008. "Indigenous Digital Collections: An Early Look at the Organisation and Culture Interface." *Australian Academic and Research Libraries* 39 (4): 223-236. doi:10.1080/00048623.2008.10721360

National Gallery of Victoria. 2017, "About the NGV." Melbourne: National Gallery of Victoria. Accessed December 5 2017. <https://www.ngv.vic.gov.au/about/>.

National Library of Australia. 2012. "Community Heritage Grants Recipients 2012." Canberra: National Library of Australia. Accessed July 23 2018. <https://www.nla.gov.au/content/community-heritage-grants-recipients-2012>.

National Library of Australia. 2013. "Community Heritage Grants Recipients 2013." Canberra: National Library of Australia. Accessed July 23 2018. <https://www.nla.gov.au/content/community-heritage-grants-recipients-2013>.

National Library of Australia. 2017a. "Community Heritage Grants." Canberra: National Library of Australia. Accessed November 20 2017. <https://www.nla.gov.au/awards-and-grants/chg>.

National Library of Australia. 2017b. "Community Heritage Grants Assessment Report." Canberra: National Library of Australia. Accessed May 11 2018. <https://www.nla.gov.au/chg/community-heritage-grants-assessment-report>.

National Library of Australia. 2017c. "Preservation Needs Assessments." Canberra: National Library of Australia. Accessed July 23 2018. <https://www.nla.gov.au/chg/preservation-needs-assessments>.

National Library of Australia. 2017d. "Significance Assessments." Canberra: National Library of Australia. Accessed July 23 2018. <https://www.nla.gov.au/chg/significance-assessments>.

Ormond-Parker, Lyndon, and Robyn Sloggett. 2012. "Local Archives and Community Collecting in the Digital Age." *Archival Science* 12 (2): 191-212. doi:10.1007/s10502-011-9154-1

Penchansky, Roy, and J. William Thomas. 1981. "The Concept of Access: Definition and Relationship to Consumer Satisfaction." *Medical Care* XIX (2): 127-140. doi: 10.1097/00005650-198102000-00001

Pigott, P. H. 1975. *Museums in Australia 1975. Report of the Committee of Inquiry on Museums and National Collections including the Report of the Planning Committee on the Gallery of Aboriginal Australia*. Canberra: Australian Government Publishing Service.

Samaras, Katrina. 2005. "Indigenous Australians and the 'Digital Divide'." *Libri* 55 (2-3): 84-95. doi: 10.1515/LIBR.2005.84

Satterfield, Theresa. 2002. "Numbness and Sensitivity in the Elicitation of Environmental Values." In *Assessing the Values of Cultural Heritage: Research Report*, edited by Martin de la Torre, 77-100. Los Angeles: Getty Conservation Institute.

Saunders, Jill. 2014. "Conservation in Museums and Inclusion of the Non-Professional." *Journal*

of *Conservation and Museum Studies* 12 (1), art. 6: 1-13. doi: 10.5334/jcms.1021215

Scott, Marcelle. 2017. *Safe Keeping: A Report on the Care and Management of Art Centre-based Community Collections*. Darwin: Arnhem, Northern and Kimberley Artists Aboriginal Corporation.

Sloggett, Robyn. 2016. "Relinquishing Ambulance Chasing: Designing a Future for a Conservation Profession Fully Engaged with Australia's Cultural Heritage." *AICCM Bulletin* 37 (2): 119-128.

Smith, Neil. 2008. *Uneven Development: Nature, Capital, and the Production of Space*. 3rd edn. Athens: University of Georgia Press.

Soja, Edward W. 2010. *Seeking Spatial Justice*. Minneapolis: University of Minnesota Press.

State Library Victoria. 2016. *Library Board of Victoria Annual Report 2015-16*. Melbourne: State Library Victoria. <https://www.slv.vic.gov.au/sites/default/files/2015-16.pdf>.

Taylor, Danielle, and Jarrod Lange. 2016. "Social Applications of Geographical Information Systems: Technical Tools for Social Innovation." *Australian Geographer* 47 (4): 417-433. doi: 10.1080/00049182.2016.1231050

Throsby, David. 2000. "Economic and Cultural Value in the Work of Creative Artists." In *Values and Heritage Conservation: Research Report*, edited by Erica Avrami, Randall Mason, and Martin de la Torre, 26-31. Los Angeles: Getty Conservation Institute.

Throsby, David. 2001. *Economics and Culture*. Cambridge: Cambridge University Press.

Throsby, David, and Anita Zednik. 2014. "The Economic and Cultural Value of Paintings: Some Empirical Evidence." In *Handbook of the Economics of Art and Culture: Volume 2*, edited by Victor A. Ginsburgh and David Throsby, 81-99. Oxford: Elsevier.

Ware, Vicki-Ann. 2013. *Improving the Accessibility of Health Services in Urban and Regional Settings for Indigenous People*. Canberra: Australian Institute of Health and Welfare. <https://www.aihw.gov.au/reports/indigenous-australians/improving-the-accessibility-of-health-services-in-urban-and-regional-settings-for-indigenous-people/contents/table-of->

contents.

Zhang, Hongmei, Feifei Xu, Lin Lu, and Peng Yu. 2017. "The Spatial Agglomeration of Museums, A Case Study in London". *Journal of Heritage Tourism* 12 (2): 172-190. doi: 10.1080/1743873X.2016.1167213

Authors' Proof prior to submission