Greenways as Indigenous Cultural Pathways: Healing Landscape and Peoples One Step at a Time in the South West of Western Australia

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Abstract

The South West of Western Australia (SWWA) is widely known as one of the world's most biodiverse regions and a recognised biodiversity hotspot. However, since European colonisation approximately 200 years ago, this landscape has been cleared, fragmented and degraded at large and small scales, a problem magnified by being one of the planet's most vulnerable locations to climate change. This region also hosts one of the world's longest continuous cultures, the Nyungar people, who have lived in the SWWA for at least 38,000 years. However following colonisation Nyungar land management practices – that once connected the region's Traditional Owners with place, including firestick farming and seasonal movement – have been mostly lost with consequences not only for the biological makeup and diversity of the region but also for their culture. Fortunately, a range of contemporary projects, policies and plans have emerged that endeavour to address both the region's environmental challenges – including ecological fragmentation and species extinction – as well as aiming to reconnect the Nyungar peoples and traditional landscape practices with place. These projects provide a holistic vision to the challenge of improving landscape health and central to this practice is the continued maintenance of walking linkages across the landscape, through vegetated corridors or pathways, sometimes referred to as 'songlines'. This research will introduce three SWWA project examples that at varying scales explore the intersection of Indigenous knowledge, culture and practice with green infrastructure planning across challenging, complex and contested urban and regional environments. This range of Greenways promote the experience of traversing landscapes on foot as a critical step toward the simultaneous healing of self, culture, community and landscape - embracing both ecological restoration as well as cultural and spiritual health. These emerging projects thereby propose an expanded and diverse spectrum of mutual benefits, offer greater buy-in from broad sectors of community and offer an additional tool toward implementation. While this research could appear specific to this part of the world, it offers contemporary examples for how to plan, design and visualise Greenways in order to deliver the widest diversity of benefits across landscapes in question; as well as a potential novel contribution to the Greenway typology, highlighting a new chapter in the ever-expanding and rich greenway (and green infrastructure) narrative.

Introduction

This paper documents several emerging Greenway projects in the South West of Western Australia (SWWA) and their significance for not only the longevity and health of the region's biodiversity; but also for its traditional owners, the Nyungar people. This begins by briefly providing some background to the study area – including its fraught environmental history – and the connection between its Indigenous peoples and its ecology. Then follows a brief overview of human occupation and introduction of the key term: 'Country' and its meaning. It then highlights the relationship between traditional land management practices and also the existence of landscape connections, stories and song lines, explaining why these are important to secure landscape and cultural and spiritual health via walking. The aims of the research are

then introduced, and it is asked how improving landscape connectivity could help to achieve ecological restoration in this region as well as re-introduce culturally important landscape practices. The case study method will then be outlined before the projects are discussed. The paper closes by considering these significant projects and concluding comments relate the significance of this research.

Background

The SWWA is a region with a high degree of biodiversity and biological endemism (Hopper & Gioia 2004) and a range of threatening process, primarily land conversion and ecological fragmentation (Hobbs 1993; WWF 2012) and climate change. This has seen the conversion of expansive forests, wetlands, woodlands and scrublands into urban, suburban and agricultural land-uses (Australian Native Vegetation Assessment 2001; National Heritage Trust 2001), leading to its nomination as one of Australia's only two internationally recognised 'biodiversity hotspots' (Government of Australia 2013; Myers et al. 2000; Australian Government Department of the Environment 2014). Effectively an island apart from the rest of the continent, a strong interdependency is evident between flora, fauna and the Australian landscape and its biodiversity characterised by its evolution upon an isolated, ancient landmass, described by Hopper et al. as 'Old Climatically Buffered Infertile Landscapes' (OCBIL)(2009). The region has a Mediterranean climate with hot, dry summers and warm, wet winters with rainfall declining from highs of approximately 1000mm at the south-west corner to 200-300mm in the interior. The region's population is approximately 1,500,000 people, mostly inhabiting the capital city of Perth, see Figure. 1.

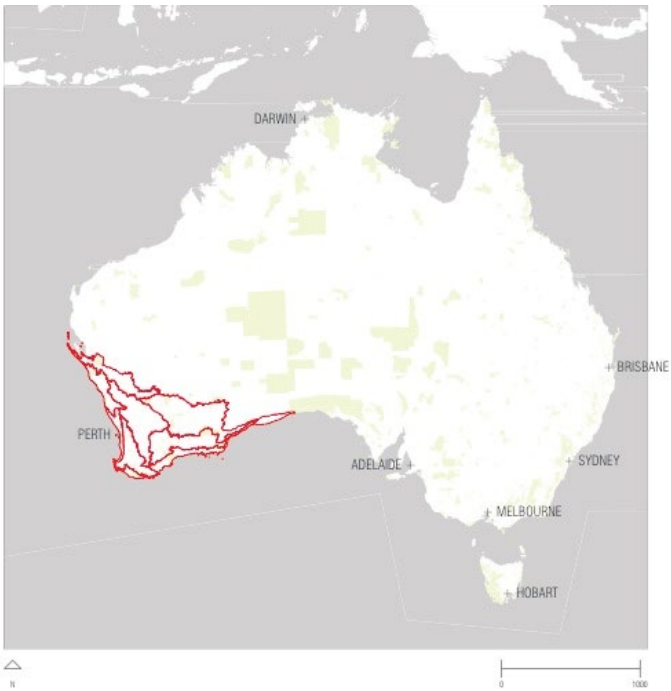

Figure 1: Study area location, the SWWA as defined by its ten distinct bioregions – an area that also approximates the extent of the Nyungar people

While beset by contemporary environmental issues and housing significant biodiversity, the SWWA is also home to one of the world's oldest continuous cultures, the Nyungar people. Australia's Indigenous peoples, have lived for at least 65,000 years in northern Australia (Clarkson et al. 2017) and up to 48,000 in the SWWA (Turney et al. 2001) and are especially notable for their land management practices. As

Gammage recounts these were not just nomadic peoples but they carefully practiced a finely tuned management of the landscape, its animals and plants through firestick farming (2011). Consequently, the landscape of 200 years ago was significantly different in structure and biological species structure than that of today (Pascoe 2016) and indeed, this landscape co-evolved with its traditional owners, who altered and modified its biological composition over many thousands of years (Flannery 1997). This means that the once carefully regulated and managed Australian landscape has now witnessed massive degradation and ecological fragmentation, species extinction and successive introductions of invasive species, changes to fire regimes and other secondary effects. In addition, the ecological restoration of these landscapes is notoriously difficult. According to Hopper and Gioia (2009), this is more akin to 'repair' due to the nutrient deficient OCBIL soils, but also as this highly fragmented landscape possesses few suitable 'reference ecosystems benchmarks' (Society for Ecological Restoration International Science & Policy Working Group 2004) and their potential as ecological reference points is actively questioned (Harris et al. 2006), at least in part due to the loss of Indigenous land management practices.

For the Nyungar people, in both the past and enduring to today, strong connections between self, culture, community and place, commonly referred to as 'Country' endure. Country in this instance with a capital 'C' defines both a territory as well as an intertwined metaphysical entity whose health depends on key actions. This is well acknowledged in Anthropology for instance:

> *'For Aboriginal peoples, country is much more than a place. Rock, tree, river, hill, animal, human - all were formed of the same substance by the Ancestors who continue to live in land, water, sky. Country is filled with relations speaking language and following Law, no matter whether the shape of that relation is human, rock, crow, wattle. Country is loved, needed, and cared for, and country loves, needs, and cares for her peoples in turn. Country is family, culture, identity. Country is self'. (Kwaymullina 2005)*

This connection is widely acknowledged, for instance in medical fields, Poroch et al. suggest that 'Land and place are connected with spirituality and are important determinants of health' (2009, p. 2) and:

> *'the requirement to go to country to find one's deep spirit; totem beliefs; a feeling inside the body while the spirit is outside the body; being comfortable within oneself; treating people with dignity and kindness and receiving the same in return; and connection with yourself, your family your land'. (2009, p. 11).*

The continued health of Country is therefore not only important for ecological restoration but also for its peoples health and culture.

The practice of walking Country connects back to 'Dreamtime' narratives and traditional Law practice as well as offering a metaphysical dimension, popularised as a concept in the novel 'Songlines' by Bruce Chatwin (1998). To the Nyungar people of the SWWA, the act of walking Country keeps both landscape and people healthy: ecological and spiritual health are interconnected systems. This is a theme somewhat paralleled in path and pilgrimage practices elsewhere: for instance, celtic 'ley' lines (Pennick & Devereux 1989), Inka 'ceques'(Farrington 1992), as well as numeorous pilgrimage examples throughout South Asia (Slavin 2003; Davis & Coningham 2018) which feature landscapes experienced by walking that operate in a metaphysical and/or metaphorical/instructive sense. Walking songlines also has a practical dimension,

relaying navigational survival techniques to locate water supplies and hydrological features in an otherwise hot, dry land.

It is here that the research intersects with Greenways, because in all greenways is also present the theme of walking. As Fábos sees it, three major types of Greenways exist – 'ecologically significant corridors and natural systems… Recreational greenways… [and] Greenways with historical heritage and cultural values' (1995, p. 5) – and as he forecast earlier, those that increasingly tend to combine all of these classifications.

Aims

In this very altered landscape situation, including vast areas now cleared, degraded and urbanised, a range of challenges to long term ecological and cultural health exist. This research consequently sought a range of project proposals that brought together themes of ecological restoration and Indigenous cultural pathways. Following on from the multifunctional role that Greenways provide (Ahern 2007; Bennett 2003; Van Der Windt & Swart 2008), the research sought also to establish how the continued ability to walk Country through effective Greenway planning could also be inclusive of more intangible and spiritual qualities of place, highlighting the changing function of Greenways. This research therefore asked how the healing of this landscape (via greenways) could occur and what current practice is being undertaken. It sought also to understand what methodologies have been employed to ensure the best greenway alignments and how this has been facilitated or enabled through contemporary design and planning practice.

Method

This study sought SWWA-based projects that investigated the adoption of Indigenous landscape songlines into current ecological master planning and urban design work in the SWWA as planned for and including culturally significant Indigenous pathways. The criteria for identifying case study projects was based upon projects that had been undertaken within the last ten years and had mentioned somewhere in their accompanying literature the potential to connect Indigenous land practices as routes or pathways. The case studies took place in December 2018 and the selection was influenced by pre-existing knowledge as well as recommendations from peers. The examination of the cases was done through empirical observations and assessment of the methodology.

Results

A sample of three case studies projects based in the SWWA were selected and will now be introduced from the largest to smallest of scales.

<u>Project one: The National Green Network</u>
The National Green Network, or NGN, is a research project completed in 2017 that investigated the role of Green Infrastructure as an essential life supporting, foundational framework for landscape resilience at a national scale that was then interrogated at the local scale in the SWWA. The NGN offered designs to meet Australia's obligations to the United Nation's Convention on Biological Diversity targets through creating an ecological network for Australia's biota in a time of population growth and climate change, improving the long-term resilience of the Australian landscape and its biota through a proposed trans-

continental network of vegetated corridors spanning the Australian continent. Accurate, measurable and visual designs articulated the implications of targets - and, where potential conflict occurred - the exploration of design contingencies (Kilbane 2013; Kilbane, Weller & Hobbs 2017).

To create the NGN, an iterative design-based methodology was employed over three scales that document the shift from conceptual to specific and from a range of policies to practice. This began with ecological modelling software to create a framework that was then redesigned at the local scale in conjunction with stakeholders – including Indigenous peoples – through a design charrette. This fine-tuned and adjusted the NGN, re-interpreting its potential to enable multi-functional outcomes from a network primarily conceived for the protection of biodiversity into a multifunctional system that also considered broader ecological and cultural benefits, including cultural pathways.

Figure 2: The *National Green Network* across the SWWA

Project two: Perth Biodiversity Project/Perth Greenways Plan

The *Perth Biodiversity Project* (West Australian Local Government Authority 2009) is a plan for the metropolitan region of Perth that aimed to secure recreational (including Indigenous) pathways and active transport routes combined with the reconnection of exiting habitat to increase the potential for ecological connectivity. This was based upon its predecessor, the *Perth Greenways* by Tingay & Associates (1991), that focussed exclusively upon human health and recreation drivers in its development.

The development of both the *Perth Greenways* and the *Perth Biodiversity Project* was based upon the identification of available and unurbanized lands and linear transport corridors (rail and major roads/freeways) to connect the river, wetlands and other hydrological features by the least distance path. The project remains enshrined within existing Western Australian spatial planning and policy, but has not greatly influenced land-use change nor development and has had very limited implementation since its inception.

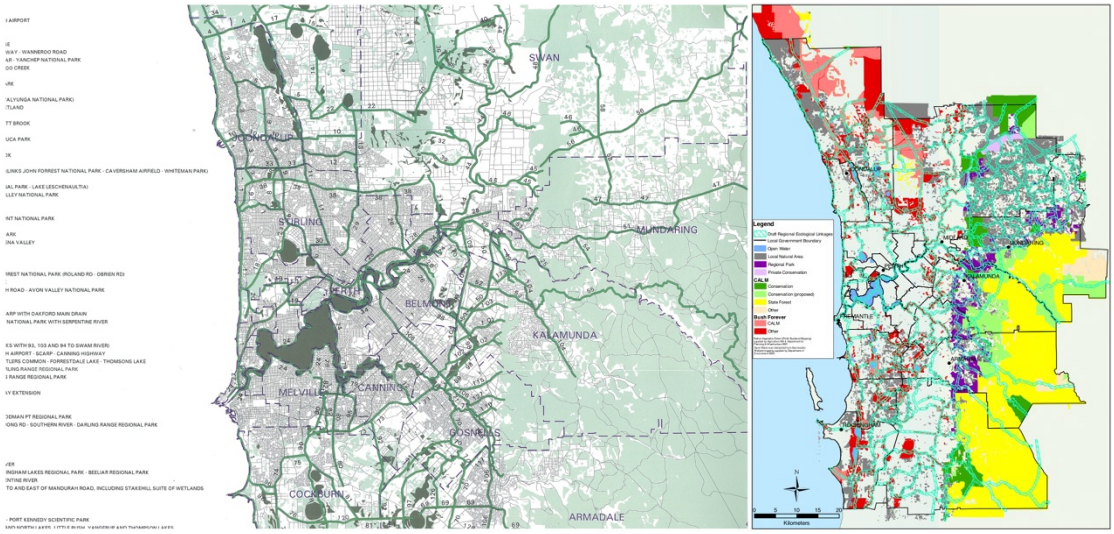

Figure 3: The *Perth Greenways* and the *Perth Biodiversity Network*

Figure 4: The *Perth Greenways Plan* and the *Perth Biodiversity Network*

Project three: Curtin Living Stream

The *Curtin Living Stream* is an award-winning project recently launched in a southern suburb of Perth through the environmental consultancy Syrinx Environmental in conjunction with Indigenous elder, Noel Nannup. This is based around two Songlines that 'connect places to people and inform us how to sustain ourselves in someone else's Country', the *Kujal Kela* (Twin Dolphin) and the *Djiridji* (Zamia, a cycad) that were interpreted through a novel hydrological feature that connects the area's 'people with place, regardless of their backgrounds, through an inviting and inclusive experience focused on revealing the richness of the local ecological and cultural landscape' (Jury citation 2018). This project was awarded for the way that it successfully intertwined 'a story of ecological and cultural recovery, connection and knowledge sharing, encompassing the social, cultural, physical, and spiritual elements that make up the layers of life and determine community and environmental wellbeing' (Jury citation 2018).

Again we see the successful integration of a range of 'social, cultural, physical and spiritual elements that determine community and environmental wellbeing' through a project that 'integrates Indigenous knowledge into meaningful design outcomes for all people'(Jury citation 2018). The method underpinning the design relied upon a site analysis process that revealed the hidden hydrological systems that operate across the site and were developed through a range of conceptual explorations with stakeholders. These led to the re-creation of ecological connectivity; potential tourism opportunities; active transport linkages; groundwater and hydrological management; and above all, the critical pathways so important to the Nyungar people. In this way the *Curtin Living Stream* aspired to maintain cultural links between people and place, helping to keep Country healthy and alive.

Discussion

Through a diverse set of methods that all share an acknowledgement and consideration of the existence of and importance of these Indigenous cultural pathways to the Nyungar people, these case studies successfully deliver workable designs. An understanding of the potential integration of Indigenous ideas into contemporary landscape practice indicates a greater maturity of landscape planners and designers in accommodating multifunctional dimensions to designs. These designs offer manifold benefits as well significantly greater potential buy-in and communicate a process towards implementation through accurate illustrations and plans that commit to particular geographical locations, something that policy and good intentions may not be able to achieve. It is on this point that the research resonates with Pungetti & Jongman who suggest that 'illustration leads to demonstration' (2004, p. 2). However, while spatially accurate, at least two of these schemes, the *NGN* and the *Perth Biodiversity Project* acknowledge that they both exist as frameworks with the potential for further iterative design processes at the local scale (Kilbane, Weller & Hobbs 2017). This is something that the *Curtin Living Stream* has delivered.

Fabos, previously quoted, suggests that greenways offer a combination of 'ecological', 'recreational' and 'heritage and cultural' qualities (1995, p. 5). This research found that this was also true for these three emerging SWWA projects that skilful combined all three qualities. Across all case studies investigated, potential solutions to environmental challenges – including ecological fragmentation – were provided through a framework that offered ecological restoration coupled with other synergistic or complementary benefits, beyond landscape, to also include its peoples.

However, this research also offers something new. While the metaphysical and/or spiritual aspects of walking the landscape via dedicated routes is already noted elsewhere – for instance in Slavin's account of the 'Camino' (2003) or Edensor's reflexive practice of walking the English countryside (2000) – these examples from the SWWA offer a potential new direction for Greenway planning and a novel contribution to the Greenway typology, highlighting a new chapter in the ever-expanding and rich Greenway (and hence green infrastructure) narrative. Here the Greenway acts as vector for not only the health of the landscape through ecological restoration, but also works toward the health of its people via notions of Country.

While the findings from this paper may resonate most strongly in the SWWA, this research may also hold value further afield. Indeed, such ideas are already gaining momentum. While writing up this research, the New South Wales Government Architect's Office launched its 'Ochre Grid' initiative. This is a new initiative that echoes the *Sydney Green Grid* (2013)– a project much like the *Perth Biodiversity Project* – that has recently seen great success. Like the *Green Grid*, the *Ochre Grid* offers a strategic framework

that in this instance works '…to include Aboriginal culture and heritage in the design of places' and is also based around a mapping project. One that seeks:

> *'…to connect both Aboriginal and non-Aboriginal communities, building knowledge bridges to enable better planning and design decisions that embrace culture and connection to country… if culture is a map across the landscape, it's not just the individual places that are important, it's actually how you get to those places and everything in between.' (Russell 2018)*

Figure 5: The Ochre Grid and the Sydney Green Grid (Office of the Government Architect NSW 2013)

Conclusion

The three case studies discussed in this paper offer a new and heretofore unrecognised aspect of Greenway planning, as one that simultaneously heals both landscape and peoples. While this paper has illustrated how each of these projects is significant in themselves, taken together these projects suggest a new movement is afoot, as evident by the adoption of Indigenous movement concepts in the recently proposed *Sydney Ochre Grid*. By understanding how the greenway concept has embraced traditional Indigenous cultural pathways and how these have in turn became enshrined in planning policy, built works, or acknowledged as best practice through awards, this paper presents a case for their expansion elsewhere. It would seem that in this instance, the act of improving landscape health is – put simply – an undertaking that is best tackled one step at a time.

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