Indigenous sovereignties: relational ontologies and environmental management

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Abstract

Indigenous nations have always and continue to assert their sovereignties to resist colonialism. This paper makes explicit the ways in which environmental management has been and continues to act as a tool of colonialism, particularly by privileging Western science, institutions, and administrative procedures. We argue that to decolonise environmental management, it is crucial to understand and challenge the power relations that underlie it—asking who makes decisions and on what worldview those decisions are based. Indigenous ways of being deeply challenge the foundations of environmental management and the colonising power structures that underlie it, and invite further thought about posthuman and relational ontologies. We provide a range of case studies that showcase the role of Indigenous nations in redefining and reimagining environmental management based on Indigenous sovereignties, knowledges, and ways of being. The case studies emphasise the crucial connection between Indigenous decision-making authority and self-governance for the enhanced protection and health of the environment. We argue that Indigenous agency, grounded in Indigenous governance and sovereignties, is driving innovation and decolonising environmental management by making space for new ways of thinking and being "in place".

Keywords *Indigenous; Indigenous nation-building; governance; environmental management; posthuman; relational ontologies*

Introduction

Indigenous nations have always, and continue to, assert their sovereignties to resist colonialism. When Indigenous nations "speak as Country", they speak as a part of a living body; they speak lawfully through their rights and sovereignties to Country as part of a living whole. Settler states have acted to suppress Indigenous responsibility to Country, but that does not mean that Indigenous nations are not asserting their rights and obligations to place. Indeed, Indigenous agency is fundamental in reimagining and decolonising environmental management through asserting Indigenous sovereignties and ways of being.

In Pacific Rim liberal settler democracies, environmental management is often assumed by western practitioners to be culturally neutral and therefore is not generally associated with colonialism. However, environmental management practices are determined by who has the power to make decisions, and by what 'onto-epistemology' is privileged in that decision-making (Barad, 2003, p.829). One of the most significant acts of colonialism is to impose an understanding of Country as something separate from humans.

Decision-making processes grounded in such assumptions are generally supported by Western science and institutions. These assumptions and institutions have acted as a form of colonialism that has served to dismiss Indigenous worldviews and life worlds, positioning decision-making authority squarely in the hands of colonial powers. This article challenges the colonial environmental management project by recognising Indigenous agency in decolonising the discipline. Integral to our argument is the recognition of Indigenous sovereignties as mechanisms of decolonisation. The authority of Indigenous nations to act as sovereign partners in environmental management deeply challenges the power structures that privilege Western science, institutions, and decision-making processes in settler democracies.

The first section of the article critically examines and politicises the history of environmental management, recognising the cultural basis of Western science and identifying colonial practices that have traditionally marginalised and dismissed all "other" ways of knowing the world. A critique of environmental management as an often ongoing form of colonialism is offered. The second section highlights and celebrates the role of Indigenous nations in rethinking and transforming environmental management. Engaging respectfully with Indigenous nations, worldviews, and ways of being offers opportunities to reshape 'the entire way that Western thought and power are conceived and exercised' (Hsaio, 2012, p.374). In addition to securing just futures for Indigenous peoples, recognising Indigenous sovereignties and working towards equitable governance also opens space for Indigenous agency to create new "solutions" to environmental management practices.

Socially just transformations of environmental management need to nurture the resilience of Indigenous nations and to recognise that contemporary forms of Indigenous governance are often grounded in strategic responses to looking after the lands, waters, and all living things in the face of colonisation, imposed systems of governance, and climate change (Whyte *et al*., 2018). Incorporating Indigenous worldviews in environmental management without shifting power to Indigenous people to make decisions based on their own worldview simply constitutes further colonialism. The third section thus outlines some of the key concepts underpinning equitable environmental governance with Indigenous nations.

Worldwide, Indigenous agency is driving and leading innovations and new agendas to redefine and reimagine environmental governance to enact environmental management based on Indigenous worldviews. The fourth section thus presents three case studies that build on our theoretical arguments to demonstrate Indigenous agency in decolonising environmental management in Aotearoa/New Zealand, Australia, and North America. Together, the case studies bolster the argument that Indigenous governance is a requisite for equitable Indigenous engagement and show how Indigenous nations have used sovereignty to operate from their own ways of being and value systems to innovate new approaches and solutions to environmental challenges. The case studies emphasise the crucial connection between Indigenous decision-making authority and self-governance for the enhanced protection and health of the environment. Supporting Indigenous sovereignties and governance can effectively and appropriately decolonise environmental management to make space for new ways of thinking and being "in place".

Environmental management as colonialism

> During the past century, a diversity of traditional knowledge and practice systems all over the world has been replaced by a monolithic Western resource management science … The problem is that Western scientific resource management, despite all of its power, seems unable to halt the depletion of resources and the degradation of the environment. Part of the reason for this paradox may be that Western resource management, and reductionist science in general, developed in the service of a utilitarian, exploitative, dominion-over-nature worldview of colonists and industrial developers. (Berkes, 2012, p.266)

As Berkes illustrates above, the doctrine of environmental management has served as a 'pervasive new form of colonisation' for Indigenous peoples (Hemming & Rigney, 2008, p.767) and is also the 'root of our current environmental problems' (Herman, 2016, p.163). The "monolithic" environmental management to which Berkes refers is based on Western reductionist scientific thinking, which is a focus of our critique because in that framework humans are conceived of as being separate from and superior to "nature" perceived as a resource for capitalist and colonial exploitation—an assertion that deeply affects Indigenous nations (Bignall et al., 2016; Cajete, 2016; Haraway, 1990; Howitt & Suchet-Pearson, 2006; Latour, 2004; Plumwood, 1993). The premises underpinning Western reductionist science are deeply rooted in

specific cultural ideas, yet rather than acknowledging the cultural specificity of Western science, it is heralded, promoted, and protected worldwide as "rational", "objective", "universal", and culturally neutral approach to addressing environmental issues (Weir & Muller, unpublished; Howitt 2011; Fourmile, 1999, Haraway 1988). Despite long recognition of nature/culture binaries, the apparatus of the settler state is based on the assumption that people are separate from place. Even the term environmental management constitutes the environment as an entity separate from authoritative decision-making humans. Such thinking often assumes "nature" is a "measurable" system where the extraction of resources or services provides "benefit" to humans (Bignall *et al.*, 2016).

This section highlights the imperial and cultural bases of Western scientific thinking and its universalising approaches. We identify how Western colonial thinking has deeply influenced environmental management and its implementation, which is particularly visible when the settler state attempts to engage Indigenous nations. We also recognise the emerging posthuman trends in environmental management and point out the tendency for most scholars to ignore the importance of Indigenous philosophies in emerging western attempts to address environmental challenges, as noted by some posthuman theorists (Braidotti, 2018; Sundberg, 2014; Wolfe, 2010).

It is now well established that traditional Western scientific thought is a cultural construct that stems from Judeo-Christian beliefs of the "dominion of man" over all species outlined in the book of Genesis. These ideas gained prominence during the Enlightenment period in the eighteenth century, when "rational" science was embraced as an opportunity to separate knowledge from the Catholic Church, validating only those truths that could be proven empirically or quantified (Herman, 2016). Influential Enlightenment philosophers such as Rene Descartes elevated the idea of reason as uniquely human: "I think, therefore I am"—arguing for the separation between mind and body. Positing humans as uniquely equipped with the ability to make sense of the world in a rational way is the basis of humanism. From this perspective, humans are considered separate from, and at times in opposition to, a perceived inferior "nature" including "lesser" cultures—all non-Europeans who are bundled together as "Other" (Latour, 1993, p.105; Plumwood, 2009). Western science was used to position 'some humans as more human through their distance from nature than others' (Castree & Nash, 2006, p.501). European culture's assumptions of the separation and superiority of European people to "nature" and the "lesser cultures" have been used to justify colonial acts of violence, genocide, and destruction. These same assumptions continue to underpin mainstream environmental management, reinforcing the political and economic apparatus of contemporary settler states and perpetuating colonising practices of environmental management.

Howitt and Suchet-Pearson (2006) argue that "conservation" and "development" are the twin Western discourses of environmental management that emerge from this imperial, rational-humanist context. The concept of conservation has been one of the most pervasive forms of colonialism worldwide. Based on the idea of "wilderness", it is used as a basis for national park management. For example, 'National park lands encase the lived homes of Indigenous peoples'; yet in Canada, as with most settler-colonial nations, Indigenous peoples have been forcibly removed from national parks so that governments can assert full ownership (Ruru, 2014). Conservation has thus served to dispossess Indigenous communities and deny Indigenous cultivation and environmental management practices (Berkes, 2012; Howitt & Suchet-Pearson, 2006; Langton, 1998). Such practices include the extension of biodiversity (Fourmile, 1999) and complex agricultural and aquaculture practices (Pascoe, 2014).

In conjunction with conservation, the "development" discourse that appears embedded in or seems to inform much environmental management is driven by economic interests. Global capitalism and neoliberalism, as driving forces of colonialism, treat all species, including "the lesser cultures", as resources available to be exploited exclusively for colonial material benefits (Plumwood, 2009). In response, critics such as Vandana Shiva (1992 argue that the idea of environmental management developed in response to economic priorities arising from the over-exploitation and degradation of nature. Despite the fact that forestry, fisheries, and water and other environmental management sectors have good intentions informed by an ethic of stewardship, the dominant paradigm has stemmed from the cultural assumptions of the separation of people from place. In the process, non-Indigenous people reimagine forests, fish, and rivers on Indigenous territories as "timber products", "fish stocks", and "water resources" to be protected and managed (Scott, 1998). At the same time, environmental managers have thought in terms of ecosystem services in response to the

need to protect ecosystems, which are also seen as separate entities that provide "services" and "benefits" to humans—although often only non-Indigenous humans (Hemming & Rigney, 2016). Attempts to incorporate aesthetic, spiritual, and cultural values often also rely on separation and quantification. As a consequence, the irreplaceable, unquantifiable, nonmaterial, intangible, and sacred values of "nature" are often not meaningfully incorporated into environmental management frameworks (Bark *et al*., 2015; Chan *et al*., 2012a; Chan *et al*., 2012b; Daniel *et al*., 2012; Kealiikanakaoleohaililani & Giardina, 2016; Pert *et al*., 2015; Plieninger *et al*., 2013; Poe *et al*., 2014; Satz *et al*., 2013). Neither are the "other" worldviews from cultures that do value these elements.

Whyte *et al*. (2018) argue that processes of colonisation have meant that colonisers have inscribed new ecologies onto Indigenous territories—ecologies that reflect colonising cultural narratives and values in order for colonising cultures to flourish. However, these territories were already inscribed with Indigenous ecologies that reflected Indigenous sovereignties and cultural narratives for Indigenous survival. As such, settler ecologies 'erase the ecologies required for Indigenous governance systems, such as Indigenous seasonal rounds' (Whyte *et al*., 2018, p.59). The imposition of settler governance has also led to other relationships between humans and nonhumans, resulting in a different ecology. This aspect of colonialism negatively influences Indigenous wellbeing, and its affects are deeply felt as environmental management seeks to redefine, manage, and utilise Indigenous Country (Hemming & Rigney, 2008; Rose, 1996).

Despite generally sound intentions among environmental managers to engage Indigenous worldviews, its "tools"—such as creating management plans and quantifying ecological services—largely remain based in Western worldviews, further entrenching colonial power and ideology (Hemming *et al*., 2017; Hemming & Rigney, 2008). As such, Indigenous knowledges are generally marginalised as representing relative "perspectives", heritage "artefacts", "oral histories", or the views of a single "stakeholder", all of which fail to recognise Indigenous nations as sovereign rights holders. Environmental management practitioners working with Indigenous knowledges often focus on the content of Indigenous knowledge systems—on the practical and empirical. Indigenous knowledges are then separated from their contexts and knowledge holders and reduced to 'bite-sized chunks of information that can be slotted into Western paradigms' (Ellen & Harris, 2000, p.15). Such forms of "capture" and dislocation are reminiscent of colonising policies that produced the 'Stolen Generations' in Australia and Canada. "Inserting" Indigenous knowledges into Western management frameworks can be felt as violent political acts enabled by the exercise of power to control financial, institutional, and political resources (Natcher et al., 2005). There is, then, a 'powerful and self-referential expertocracy that is embedded within academic structures, supported by and perpetuating both state and corporate interests … [and its members] threaten not only sustainability but also Indigenous peoples' knowledges and resources' (Johnson *et al*., 2016, p.8).

Indigenous nations that challenge the expertocracy are sometimes charged with talking out of place. Environmental management and Western science "experts" often assume their work to be culture-neutral and can be blind to the power structures that privilege their worldviews (Searle & Muller, this issue). It is often assumed that Indigenous worldviews are irrelevant to the focused scientific work at hand (Muller, 2012). Environmental managers tend to assume that political issues, resourcing, and Indigenous governance are not a part of their work. Nevertheless, insights from developing western theoretical trajectories such as assemblage theory, new materialism, and posthumanism are beginning to find their way into contemporary environmental management. These ways of thinking have potential synergies with Indigenous philosophies. For example, non-Indigenous physicist/philosopher Karen Barad (2003, p.829) argues that:

> We do not obtain knowledge by standing outside of the world; we know because "we" are *of* the world. We are part of the world in its differential becoming. The separation of epistemology from ontology is a reverberation of a metaphysics that assumes an inherent difference between human and nonhuman, subject and object, mind and body, matter and discourse.

While Western forms of posthumanism better "intra-act" (Barad, 2003) with Indigenous worldviews, their emergence from Eurocentric scholarship creates a propensity to exclude the intellectual and political value of Indigenous knowledges. Such forms become new orthodoxies and tend to erase Indigenous philosophies, perpetuating colonialism (Bignall *et al*., 2016; Panelli, 2010; Sundberg, 2014).

Indigenous nations have been speaking back to the colonial impositions of environmental management, contesting environmental management structures that privilege Western culture, thinking, and decision-making power (Bang *et al*., 2018; Fourmile, 1999; Smith, 1999). Despite significant variations in cultures and worldviews, Indigenous nations seeking to translate their rights and interests into the environmental management discipline find commonalities in the ways in which they explain their values. On that understanding, the following section outlines how some Pacific-Rim Indigenous nations have been asserting their agency by translating their worldviews into English in ways that make sense to those producing dominant environmental management discourses. Our aim in not to establish a dichotomy between cultural knowledges nor to assert that one way of knowing is better than another. Rather, we seek to highlight ways of being based on relational ontologies that offer alternatives to the monolithic forms of environmental management.

Indigenous knowledges and experiences in environmental management

> Can you imagine a world where nature is understood as full of relatives not resources, where inalienable rights are balanced with inalienable responsibilities and where wealth itself is measured not by resources ownership and control, but by the number of good relationships we maintain in the complex and diverse life-systems of this blue green planet? I can. (Wildcat, 2013, p.515)

Imagine a future re-envisioned in the way that Wildcat outlines above. In his framework, the health of relationships among all beings would be the key outcome—not the production of resources. Rights to "nature" would be encumbered with responsibilities to place and embedded in relationships. Many Indigenous worldviews have the power to radically transform environmental management by inscribing values of connectivity, reciprocity, and trust in ethical relationships with all species. The assumption is that transforming the vision for environmental management will also transform its "outcomes" outside of oppressive settler-colonial paradigms. Ascribing to these views, below we consider the efficacy of engendering an *ethos of care*; engaging in *reciprocal relationships*; and celebrating *interconnectedness*. Each of these ideas serves to deeply unsettle the assumption of the separation and superiority of humans in environmental management.

Many Indigenous nations refer to the importance of an *ethos of care* within Indigenous worldviews (Johnson *et al*., 2016; Whyte et al., 2016; Wildcat, 2013), as Bang *et al*. (2018) suggest, relationality matters. An ethos of care refers to a way of being in the world, rather than to an ethic which is often not embodied and which functions as a device of separation between "human" and "non-human" (de la Bellacasa, 2010, 2017). While Indigenous nations consume "environmental services" and resources, such as by hunting species, the framework is often embedded in relationships with non-human species and each other (Watson & Huntington, 2008). Receiving resources is recognised as a privilege that comes with concurrent reciprocal responsibilities (Kealiikanakaoleohaililani & Giardina, 2016). These ethical relationships are embedded in kinship and genealogical connections to everything in the world such that each person has 'a spiritual bond in a relationship of reciprocity' with all other species, recognising non-human agency (Whyte *et al*., 2016, p.29).

Reciprocal responsibilities refer to an "attitudinal reciprocity" (Ziker et al., 2016) rather than to direct exchanges among individuals in Western neoliberal terms. The concept of reciprocal exchange means that one gives as an enactment of reciprocal responsibilities. It also means that person will receive back from the exchange—via both claims to multidimensional, cyclical, kinship rights, and the exercise of responsibilities to humans and non-humans. In northern Australia, this concept is referred to as "wirnan" in the Kimberleys (Doohan, 2008), "wetj" in Yolngu terms (Bawaka Country *et al*., 2013), and "hau" in Māori (Salmond, 2014), The Ust'-Avam in the Arctic also prioritise sharing based on the principles of kinship, reciprocity, and generosity: 'I give it, if I have it!' (Ziker *et al*., 2016, p.48).

Hawai'ian scholars Kealiikanakaoleohaililani and Giardina (2016) argue that 'embracing the sacred' is a fundamental element of Indigenous knowledges that is essential for sustainability. It is only when places and human and non-human beings are embraced as an *interconnected* network of sacred relationships that ethical, respectful, and sustainable outcomes can be realised. It is sacredness that enables 'informed stewardship and passionate guardianship to occur' and that provides powerful solutions for our current environmental crisis and the commodity-driven framework of

mainstream environmental management (p.65). It is this sense of the sacred and the intimacy of relationships that enables a 'depth of knowing' that is not available in worldviews separated from an objectified 'nature' (Whyte *et al*., 2016, p.30). 'Critically, it is this embracing of resources from within a network of sacred relationships that distinguishes Indigenous from Western approaches to sustainability' (Kealiikanakaoleohaililani & Giardina, 2016, p.59).

Thus, Indigenous scientists recognise and celebrate the connections between humans and the environment through relational ontologies. They use rigorous methodologies that tend to be reliant on long-term observations and deep place-based knowledge (Johnson *et al*., 2016). The power of Indigenous science 'lies in its ability to make connections and perceive patterns across vast cycles of space and time' (WISN, 2018, np). Indigenous science is constantly evolving, is nonlinear or cyclical, and is 'a process of regeneration and re-creation' (McGregor, 2004, p.404). Indigenous knowledges are often dismissed for not having "factual" information that may be relevant or, indeed, are assumed to be inadequate for unprecedented issues, such as climate change (Berkes, 2009). However, it is the process of Indigenous knowledge creation and 'ways of observing, discussing and making sense of new information' (Berkes, 2009, p.153) as well as recognising interrelationships that offers unique insights and opportunities in bringing together knowledge systems. On such grounds, Wildcat (2013, p.215) argues that Indigenous nations are best equipped to lead the quest for sustainability due to their extensive knowledge of how to adapt to change that has developed over millennia, for their 'Indigenuity!'.

In order to engage with the benefits of Indigenuity, dialogue is needed in order to safeguard Indigenous peoples' rights to manage their territories and challenge the onto-epistemological foundations of environmental management. One key method in this work of safeguarding is to ensure Indigenous governance structures and decision-making rights in environmental management (Whyte *et al*., 2016, p.27), considered next.

Indigenous governance and nation-building

> … the use of Indigenous knowledge is *political* because it threatens to change power relations between Indigenous groups and the dominant society. (Berkes, 2012, p.267, emphasis in original)

Equitably incorporating Indigenous worldviews into environmental management is political, as Berkes states above, because it will require shifts in the power structures of mainstream environmental management to recognise Indigenous sovereignties. Indigenous sovereignties recognise Indigenous people as 'rights holders, not just stakeholders' in environmental management (Ooft, 2008, p.21). The United Nations Declaration of the Rights of Indigenous People recognises the rights of Indigenous peoples to protect their territories, including their spiritual and cultural relationships with their territories. Article 18 recognises the rights of Indigenous people to 'participate in decision making over matters that affect their rights' (United Nations, 2007, np). Diverse Indigenous nations are 'making similar claims: the right to control the lands and resources as a basis for their local economy; the right to self-determination and self-government and the right to represent themselves through their own political organisations' (Berkes, 2012, p.272). Recognising Indigenous sovereign rights in environmental management inherently challenges power structures. Environmental governance structures determine who makes decisions and on whose worldviews they are based. This section argues that a shift in environmental governance and the power structures of environmental management is necessary to make space for Indigenous nations to operate on their own onto-epistemological terms.

For over 30 years, members of the Harvard Project on American Indian Economic Development have conducted research in the United States, Canada, Aotearoa/New Zealand, and Australia considering Indigenous governance practice and outcomes. Their research rejects the "standard" approach to engaging Indigenous nations that—as we argue above—is a form of colonialism which renders those nations homogeneous rather than differentiated (Cornell & Kalt, 2007). Standard programs are typically focused on the short term in accordance with political electoral cycles, are crisis driven, and are established by governments on the terms of the dominant culture. This approach neither recognises Indigenous decision-making responsibilities nor allows for Indigenous-led strategic direction, or recognises political issues.

In contrast, the Harvard Project promotes a "nation-building" approach premised on the rights of Indigenous nations to have decision-making authority for themselves and their territories and begins with a form of practical sovereignty (Cornell & Kalt, 2007). This authority may take the form

of legally reconised sovereignty in a treaty, or, in the absence of treaties and recognised sovereignties, such as in Australia, can take the form of de facto sovereignty, such as exists in contract law agreements (Rigney *et al*., 2015, p.343). In the absence of the recognition of Indigenous rights, many nations are thinking creatively to find new solutions and tools to build their own institutions and assert their rights to self-governance over matters that affect them (Cornell, 2015). Cornell and Kalt (2007) outline many examples showing how the nation-building approach has improved environmental management, law enforcement, health service delivery, and economic outcomes. Thus, a nation-building approach shifts the dynamic from dependence on government funding programs and priorities to 'the development of truly government-to-government relations' (Cornell & Kalt, 2007, p.28), changing the role of government to one involving advising and resourcing.

Shifting Indigenous engagement towards a nation-building approach that recognises Indigenous sovereignties enables new power structures for environmental management (Hemming *et al*., 2016; Hemming *et al*. 2011). This approach creates formal "nation-to-nation" relationships that have a chance to be more just. It enables Indigenous nations to make decisions on the basis of their own internally authorised processes. Thus, when Indigenous nations are empowered to engage on their own terms, space is made for developing innovative solutions to environmental issues by respectfully partnering with Indigenous peoples and appreciating their worldviews using new kinds of 'multiepistemic literacy' (Kuokkanen, 2007, p.155). Escobar (2011, p.139) uses the term "pluriverse" to refer to 'a world where many worlds fit', and others argue for equitable collaboration as "ontological pluralism" (Howitt & Suchet-Pearson, 2006), "onto-epistemological" pluralism (Barad, 2003), "walking with" (Sundberg, 2014), and "co-motion" (Muller, 2014).

These more equitable, healthy, and reciprocal interactions require Indigenous nations to have environmental governance authority. There are significant interconnections between confident Indigenous nationhood expressed in an effective self-governing authority, Indigenous socio-economic rights, and the health of the environment in support of a rich and diverse ecology of lifeforms. As such, when Indigenous nations have authority and requisite resources to draw on their own worldviews to make decisions for their environs, more equitable environmental governance and enhanced environmental outcomes seem to be the outcome. Four case studies, following, bring to bear evidence to support this argument. The case studies are grouped into three sections: understanding the effects of granting legal personhood to "nature" in two instances in Aotearoa/New Zealand; considering Ngarrindjeri water management in Australia; and learning from Menominee sustainable development in the United States.

Case studies of innovations through Indigenous sovereignties

Granting legal personhood to "nature" in Aotearoa/New Zealand

> E rere kau mai te Awa nui
> Mai I te Kahui Maunga ki Tangaroa
> Ko au te Awa, ko te Awa ko au
> The Great River flows
> From the Mountains to the Sea
> I am the River, and the River is me.
> (cited in Te Aho, 2014)

In Aotearoa/New Zealand, the Te Awa Tupua (Whanganui River system) has been granted status as a legal being with its own rights. The Whanganui Iwi (tribes) have been fighting for their customary rights and responsibilities since the Treaty of Waitangi in 1840,[1] as they never ceded their control of the river. In response to Whanganui Iwi claims over this period, the Crown has worked consistently to block their rights by developing new governance bodies, vesting more rights in the Crown, and passing legislation to contest and minimise Whanganui claims (Hsaio, 2012, pp.371–72). Throughout the 2000s, Māori rights were denied on the basis that Māori could not "own" resources that were considered part of the common good (Strang, 2014). However, in 2011 the government sought to privatise water rights for hydro-electricity generation. As such, it could no longer claim the "common good" for resources and opened the possibility for proprietary rights to water. Māori challenged the Crown, argued that this outcome was inconsistent with the Treaty of Waitangi, and asserted that their rights to water must be recognised (Salmond, 2014).

In 2014, the Ruruka Whakatupua Te Mana o te Iwi o Whanganui was signed: it is a deed of settlement that recognises Māori claims to Te Awa Tupua. The settlement is an acknowledgement from the Crown that 'Te Awa Tupua is an indivisible and living whole' (Te Aho, 2014). The agreement grants Te Awa Tupua, the Whanganui River,

legal standing. This legal personhood enables the river to enforce rights against other legal persons and provides for an independent voice. The settlement includes recognition of the profound and distinct relationship Māori have to the river, an apology to the Iwi and hapu for the historical breaches of the Treaty—including recognition of the long overdue redress, and an NZ$80 million financial settlement (Te Aho, 2014). The agreement also recognises the Māori principle that the health of people is connected to the health of place and includes an agreement for a social services project that will enable better health for Iwi (Te Aho, 2014).

The frameworks for Te Awa Tupua management recognise, value, and fund Māori governance, worldviews, priorities, and management approaches. The agreement appoints two river guardians, from the Whanganui River Iwi and the Crown, to ensure that the needs of Māori and the broader community are protected. It also creates a strategy group comprising Iwi, Crown, and broader community representation, which informs the guardians and which replaces regional councils in setting water allocations for the Whanganui. The principles of the agreement enshrine the indivisibility of the Whanganui people and the river including their mana, or power, and the 'interconnectedness of their sovereignty' (Hsaio, 2012, p.373). It remains to be seen how the legal personhood of the Whanganui River will play out in future legal cases.

Aotearoa/New Zealand has also granted legal personhood to national parks, which have been a form of dispossession and a way of denying Indigenous nations their rights to manage their estates worldwide. In the North Island of Aotearoa/New Zealand in the Tuhoe Tribal Lands, the Te Urewera National Park is no exception. The Tuhoe people have long argued that it was 'unjustly appropriated by the Crown (New Zealand government)' (Lyver, Davies, & Allen, 2014, p.93). The Te Urewera Act 2014, which recognises Māori sovereignty through the Treaty of Waitangi, has removed the park from Crown management into its own entity, recognising the bi-cultural value of the park (Ruru, 2014). Te Urewera National Park is now recognised as 'a legal entity' with 'all the rights, powers, duties and liabilities of a legal person' (section 11(1), cited in Ruru, 2014, np). The Act also recognises that the Tuhoe have never ceded their sovereignty to the Crown under the auspices of the Act. Park management has shifted from the Department of Conservation to the Te Urewera Board, which is directed to work from Tuhoe customary values and laws and concepts of management and to ensure that all decisions take into account of the relationships between Iwi and the park (Ruru, 2014). According to the Honourable Dr Pita Sharples, Mister for Māori affairs, the 'settlement is a profound alternative to the human presumption of sovereignty over the natural world. It restores to Tuhoe their role as kaitiaki (guardians) and it embodies their hopes of self-determination' (cited in Ruru, 2014, np).

The Whanganui and Te Urewera examples represent a real shift in power to Māori Iwi and that enables Indigenous worldviews to have status in management decisions and practices albeit within rigid colonial legal frameworks. In addition, these legal shifts give voice to "nature" as a non-human actor and stakeholder in place, in accordance with Māori worldviews. These agreements could be framed as 'nation-building' approaches to environmental management, given that Māori sovereignty is recognised through the Treaty of Waitangi as a fundamental platform for recognising Māori rights. This kind of framing bolsters our overarching argument that it is crucial to value ontological pluralism through the assertion of Indigenous sovereignties.

Ngarrindjeri engagement in water management, South Australia

Ngarrindjeri Country, at the mouth of the Murray River in South Australia, is at the centre of extensive environmental management programs addressing ecological degradation caused by drought and over-allocation of water. Negotiation of a new relationship between the State Government of South Australia and the Ngarrindjeri Nation uses contract law agreements, particularly the 2009 Kungun Ngarrindjeri Yunnan Agreement (KNYA – Listen to Ngarrindjeri speaking). Such negotiation has prepared the way for a new nation-to-nation partnership between Ngarrindjeri and the State in environmental management—a nation-building approach. In essence, the KNYA contract law agreements (or KNY Agreements) have acted as a 'practical exercise of de facto Indigenous sovereignty' in Australia, where no formal treaties have been entered into (Rigney *et al*., 2015, pp.343–44). These agreements recognise the Ngarrindjeri 'ontology of Being as "more than human"'(Bignall *et al*., 2016, p.470). In 2014, the State formally recognised Ngarrindjeri "Speak as Country" in a deed between the Department for Environment and Water and the Ngarrindjeri Regional Authority. This Deed formed the basis of

a radically new relationship based on the Ngarrindjeri philosophy of *Ruwe/Ruwar*—the interconnection between lands, waters, spirit, and all living things. Such de facto recognition of sovereignty asserted by Ngarrindjeri enabled them to work with the State to develop innovative solutions for wetland disaster risk reduction during the Millennium Drought.

At the peak of the drought, Ngarrindjeri Country experienced record low water levels, and significant exposure of acid sulphate soils that threatened the region's ecosystem. The KNY agreements enabled Ngarrindjeri to negotiate with the State during the development of emergency response proposals to build regulators in the lower section of Australia's Murray River to address the threat of acidification. Opposed to interventions that further divided their Country, Ngarrindjeri negotiated to ensure that such emergency responses were temporary, that regulator design minimised damage to Ngarrindjeri *Ruwe/Ruwar*, and that a panel of Ngarrindjeri and experts independent of government would advise the State about when the structures could be removed. The Ngarrindjeri produced an innovative and temporary emergency solution that met both their own and the State's needs to mitigate environmental impacts.

The Ngarrindjeri Regional Authority has also engaged in wetland management planning processes and reworked the vision for planning from species management focus to creating, as far as possible, water flow that the ancestors would have seen. This Ngarrindjeri vision for Country influenced their Western science partners to adopt an alternative approach to modelling, one of hindcasting, which refocused the wetland plans for their region offering new environmental outcomes. Through this innovation, the Ngarrindjeri also brokered the first agreement with the Australian Government to ensure that "environmental" water—defined at law as water provided to the environment, which is a recognised water user in Australia—will be prioritised according to Ngarrindjeri claims. Their river restoration work led to Ngarrindjeri being awarded the 2015 Australian Riverprize (Hemming *et al.*, 2017).

The Ngarrindjeri case study shows that there are opportunities to enhance environmental management using equitable governance structures and processes. The nation-building approach, in which Ngarrindjeri sovereignty and self-governance are recognised, enabled negotiated outcomes that challenge the doctrine of environmental management by invoking an ethos of connection and reciprocity. Ngarrindjeri sovereignty and decision-making powers have driven innovations and new environmental outcomes both in terms of species recovery and water planning excellence, and also in broader terms related to the wellbeing of Ngarrindjeri and the Coorong through an ethos of care.

Menominee sustainable development, Wisconsin

> Start with the rising sun and work toward the setting sun, but take only the mature trees, the sick trees, and the trees that have fallen. When you reach the end of the reservation, turn and cut from the setting sun to the rising sun and the trees will last forever. (Menominee Chief Oshkosh, 1908, cited in Dockry, 2012, p.61)

Chief Oshkosh's vision for forest management eloquently states the Menominee vision for harvesting forest resources in a way that maintains its ecological, cultural, and spiritual values. The Menominee tribe originally inhabited over 11 million acres in Wisconsin and Michigan, but following seven treaty processes, the final treaty in 1856 ceded all but 230,400 acres of their estate (Dockry, 2012, p.25). The final area contained forest that the Menominee valued as integral to their being. Given the significant loss of their land, the Menominee had to re-envision their survival within the confines of settler oppression. Logging became part of those means but was always embedded within the ethos of reciprocal responsibilities with the forest system. Rather than monocropping, the Menominee approach to forestry pays 'respect to the agency of the forest itself' and its role in the cultural and spiritual practices of the Menominee (Whyte *et al.*, 2018, p.152). By the late 1800s, the tribe had initiated 'sustained yield forestry', developing a management approach with limits on harvest that enabled all species to flourish (Dockry, 2012, p.60). In 1905, the La Follette Act, specific to Menominee forests, was the first in the United States to legislate for sustained yield forestry—'goals the Menominee people had been pursuing for decades' (Dockry, 2012, p.75). Menominee forest management is now recognised as among the best in the United States (Dockry, 2012), and demonstrates how an Indigenous nation-building approach based on sovereignty enables being in place and sustainable and biodiverse outcomes in practice.

In 1993, the Menominee founded the Sustainable Development Institute (SDI) of the College of Menominee Nation (Whyte *et al.*, 2018). The SDI is founded on Menominee vision,

worldviews, sovereignty, and ecologies to enable tribe members to develop their own approach to sustainable development on the basis of their forestry practices. The SDI actively seeks to share Menominee insights with others. It works to enable both Indigenous and Western sciences to flourish, which opens up new opportunities for thinking about and engaging with new perspectives on climate change. It engages new voices and promulgates a more integrative and holistic approach to creating 'place-based sustainability' (Whyte *et al*., 2018, p.171). Some Institute studies seek to predict the impact of climate change on the Menominee forest and consider how climate change will affect relationships between Menominee and the forests and ecological networks. Others seek to develop cooperative solutions to climate change impacts and develop evaluation frameworks based on Indigenous values of relationships and seven-generation planning. The SDI also pursues 'Indigenous-based, experiential training for the next generation of Indigenous scientists, leaders, activists, and professionals' (Whyte *et al*., 2018, p.174). Importantly, this work is owned and controlled by the Tribal College, with the Menominee the direct beneficiaries of the research.

Thus, members of the Menominee Nation recognise the importance of sovereignty in developing their world renowned forestry approach and establishing their SDI (Whyte *et al*., 2018). Their rights to manage the forest according to their own worldviews and decision-making processes have enabled them to lead others towards sustainable forestry (Dockry, 2012). Indeed, the development of the SDI based on Indigenous knowledges and worldviews offers new insights and opportunities to re-envision planning for sustainability to be focused on connection, reciprocity, and relationships for new ecologies.

Conclusion

> Sustainability requires the recognition and restoration of reciprocal relationships between peoples and places. (Wildcat, 2013, p.514)

Indigenous ways of being and worldviews based on connection, reciprocity, and ethical relationships epitomise what is missing in the mainstream doctrine of environmental management.

This article has demonstrated the ways in which environmental management has often been a form of colonialism, particularly enforcing upon knowledge, institutions, and practices of environmental management a worldview that assumes the separation of people from place. The case studies discussed above suggest that Indigenous agency can powerfully unsettle the dominance of "monolithic" forms of environmental management that have reached many parts of the globe. We argue that when Indigenous nations become sovereign partners in environmental management, the power structures that underlie decision-making in the discipline are deeply and productively challenged and decolonised. Thus, each case study highlights the importance of Indigenous sovereignties in reshaping practices of environmental management.

Indigenous nations are asserting their responsibilities to Country on the basis of their own worldviews and are negotiating new and more sustainable forms of environmental management. This nation-building approach recognises Indigenous agency and supports Indigenous sovereignties as integral factors for decolonising environmental management. It is hoped that moving towards "excolonialism" (Bignall, 2014) will support more just futures and enable the richness of Indigenous ways of being to reshape existing solutions and create new solutions to pressing environmental issues. Indigenous sovereignties and ways of being in sacred, ethical, and reciprocal relationships with "nature" are enhancing and developing more sustainable approaches to living in what many call the age of the Anthropocene.

Note

1. The Treaty of Waitangi was signed by the Crown and Māori in 1840 to define Māori land rights. However, for many Māori, these rights were ignored until the development of the Waitangi Tribunal in 1975 to identify and remedy the breaches of the Treaty (O'Regan *et al*., 2006).

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