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Ecological restoration and the law: recovering nature's past for the future

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Environmental law worldwide dwells on nature's future, not its past. The plethora of environmental regulations and policies orients society, ostensibly, to avoid impending threats and nurture long-term stewardship of natural resources. The 'past', in the sense of the natural world's historic condition before the human onslaught, is relegated for protection in discrete enclaves we commonly call national parks while the much larger, remaining spaces have been left open for dramatic transformation for anthropocentric needs. With each successive human generation, our memories of nature's former riches are dissipated. Incremental, attritional environmental decline unfolds mostly too gradually to be observed by individuals within their own lives, thereby rendering most insouciant about their degrading surroundings. We see congested roads, sprawling housing, busy shopping malls and so on, as the environment's 'normal' condition, oblivious to the biodiversity riches that once graced the landscape. To the extent that environmental law looks to the past, to undo some of our mischief, it tends to intervene only in spatially and temporally narrow parameters such as to rehabilitate former mining sites or to remediate pollution contamination. Rarely does the law seek to repair holistically the ubiquitous degraded landscapes and ecosystems in our midst despite emerging duties on states to do so in transnational environmental law.[1] The challenges for environmental governance are thus particularly onerous in a world infatuated with its future.[2]

This special edition of the *Griffith Law Review*, the first of its kind in the world, firstly investigates the emerging legal interventions, both those officially sanctioned and informally applied, to recover nature's past for the future. These interventions range from the sporadic acknowledgments of ecological restoration in transnational law, such as in the *Convention on Biological Diversity*[3] and the European Union's Habitats Directive,[4] to national-level initiatives such as the Collaborative Landscape Restoration Program implemented in the United States under the *Omnibus Public Land Management Act of 2009*.[5] Just as importantly, ecological restoration is embraced by an increasing ensemble of non-governmental actors such as farmers, conservation organisations and Aboriginal communities for aesthetic, functional or spiritual reasons. Conservation projects such as

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[1]Telestksy et al (2016), pp 247–273.
[2]Niedzviecki (2015).
[3]*Convention on Biological Diversity* 31 ILM 818 (1992).
[4]Habitats Directive, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
[5]*Omnibus Public Land Management Act of 2009* Public Law No. 111–11.

Gondwana Link, in Australia, and Trees for Life, in Scotland, are among a number of grassroots initiatives aiming at restoration beyond the state.[6] Nonetheless, the scale of restoration still falls well short of what is necessary in a present age often described as the Anthropocene. The obstacles are numerous, including high economic costs, deficient technical expertise, existing land uses grandfathered by the law and cultural acclimatisation to modified landscapes. Despite the abundance of scientific advice such as that recommended by the Society of Ecological Restoration,[7] the world's peak body for restoration ecologists, ecological restoration remains poorly acknowledged in most environmental laws and policies.

This special journal edition is much more than an inventory of the latest legal reforms to recover nature's past. The legal priority to avert, mitigate or adapt to new ecological impacts rather than to restore past damage reflects deeply ingrained conceptual biases in environmental governance. The policy of sustainability, prevalent in the rhetoric of the law such as Australia's lodestar *Environment Protection and Biodiversity Conservation Act 1999* (Cth),[8] and New Zealand's *Resource Management Act 1991*,[9] can emotionally and cognitively disconnect people from actively restoring nature by presuming that in the Anthropocene nature has the capacity to passively restore itself while regulators concentrate on curbing new threats. From marine plastic pollution to deforestation, nature struggles to regain and live by its own biorhythms, with environmental losses continuing to outpace their recoveries.[10] At stake here is a destructive temporal bias of environmental law that trivialises nature's past as a heritage relic rather than as an interconnected dimension of the present and future wellbeing of the planet.[11] Also at play is a common assumption that the governance of ecological restoration belongs to professional managerialism and scientific knowhow. Restoring nature in fact is also about restoring culture, to refashion the connections between human communities and their natural environs in the way that many Indigenous peoples already demonstrate through their embedded spiritual connections to the land.[12] It is no coincidence that many restoration projects in the world involve Indigenous communities. The theory of reconciliation ecology is among the most prominent in the restoration ecology literature to emphasise the centrality of human beings to recovering nature's past.[13]

The articles that follow help us to critically evaluate the character and impact of current regulations and other governance mechanisms that address ecological restoration, to advance theoretical understandings for better governance reforms for ecological restoration, and more broadly to generate critical and interdisciplinary insights into environmental law. The special issue considers its subject matter in relation to themes about time, geography, culture, science and justice, to provoke deeper analysis of restoration law and practice. The temporalities of environmental governance, the centrifugal trajectory of governance beyond the state, the contested science of ecological restoration, and the role of communities in recovering or degrading nature, are among the salient issues

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[6]Fraser (2010).
[7]See http://www.ser.org.
[8]*Environment Protection and Biodiversity Conservation Act 1999* (Cth), ss 3-3A.
[9]*Resource Management Act 1991* (NZ), Public Act 1991, No. 69, s 5.
[10]Watson et al (2016); Morelle (2016).
[11]Richardson (2017a).
[12]Richardson (2009).
[13]Rosensweig (2003).

that readers have the opportunity to engage with in a collection of case studies that cross multiple jurisdictions both at an international level and from Australia to Nigeria.

Benjamin J. Richardson's article broadens our 'temporal vision' by helping us to think about restoration as a means of dealing with our long-term impact on the natural world.[14] He argues that our law and governance institutions usually focus on current environmental harms and forget that our past carelessness has already had a compounding effect on current conditions, which sustainability cannot effectively reverse. Drawing on rich and wide-ranging examples including Australia and the United States, Richardson also argues that even when we restore nature, which is quite often done through private initiatives rather than well-developed legal mechanisms, we do not adequately take into account the layered nature of our geographies. He develops this argument not only by pointing to unsuccessful restoration initiatives but also in the way that science is most prominently used to prioritise only some aspects of what is important in terms of our relationship to nature. He argues that if we were to use restoration more effectively and in a 'multi-faceted' way, we would also transform and improve how human societies live in nature, because restoration projects are not only critical to restoration itself, but also to the social value for communities in being deeply engaged and embedded in such projects. Richardson's wide-ranging discussion emphasises the importance and potential of the humanities for illuminating our insights into the reach and potential of restoration initiatives.

Belgian academics An Cliquet and Kris Decleer in their paper are sympathetic to Richardson's views on the need for restoration projects to be socially acceptable and financially feasible.[15] However, they argue that the legal system and the culture underpinning it has to become more scientifically informed if we are to achieve meaningful restoration goals and objectives, particularly as they relate to the extinction of species and biodiversity loss more generally. Drawing on a related range of scientific concepts, they show how legal instruments fail to achieve certain core fundamental goals necessary to avoid the extinction of species, but also show the positive role that restoration can play in that regard. For instance, they argue that scientific concepts like 'extinction debt' and 'ecological trap' when taken into account by legal institutions, can define legal ambitions and the measures taken to implement restoration goals aimed at reducing species extinction. Their work is critical of law because frequently it fails to adequately engage with scientific ideas that help explain the various dimensions of species extinction. To Cliquet and Decleer, scientific approaches to species extinction can help explain the relevance of restoration and conservation measures in a way that legal instruments designed without them cannot do satisfactorily. Their paper illustrates the power inherent in the discourse of science to critique law and its institutions, but also to empower it to properly deploy restoration to achieve a substantive goal of reducing extinction of species.

The power of concepts and ideas, but also semiotic objects like images, recognition, memory, categorisation and others, to shape and force changes in the narratives relating to large-scale landscape restoration is a feature of Francine Rochford's piece exploring the Murray–Darling Basin in Australia.[16] Drawing on 'eco-semiotics', she argues that the natural world is 'active and reactive' as well as a participant in the processes establishing

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[14]Richardson (2017b), pp 153–176.
[15]Cliquet and Decleer (2017), pp 177–200.
[16]Rochford (2017), pp 201–219.

important signs for us to engage with. Rochford's work contributes by first identifying problems with a 'single' restoration narrative. Two examples of this include the notion that restoration depends on achieving a historically authentic ecosystem, which if it is not achieved amounts to nothing; and the other, that restoration presumes that the natural world is static without any other influences or pressures affecting it. She then discusses the potential problem of forcing alternative narratives onto a large landscape without acknowledging the significance of all the semiotic objects that need to align with the shift. Her paper identifies that the Murray–Darling Basin as a large-scale landscape has been functioning on the basis of a production narrative. The shift to a restoration narrative needs to also change operating semiotic objects, like 're-mapping recognition, memory, modes of categorization and learning'. If not done well, which is possible in the case of such a large landscape, changing or forcing a narrative can generate 'emotional and cognitive dissonance' produced as 'opposition to the reconstruction of meaning'. In this piece, Rochford uses ecosemiotics to argue that the Murray–Darling Basin's restoration initiatives are unlikely to succeed because of the single narrative or a 'mapping of meaning across a landscape' onto historically significant experiences of both the large and varied natural world and the people who are emotionally engaged with it.

Nature as alive and capable of agency is a theme also pursued by Australian scholars Nicole Graham and Robyn Bartel, who argue that *reconciliation* rather than restoration will more genuinely achieve a relational, ontological and reflexively oriented reform.[17] They argue that private property owners need to actively reconcile and adapt their land-use practices with the land itself and function through local rather than idealist and universal narratives. Ecological restoration, they argue, is a less flexible model that assumes an essentialist and human stewardship posture towards the environment by aiming to take ecosystems back to their historical and classical forms. Graham and Bartel draw on stories of farmers that adopt diverse land-use practices that illustrate a dynamic and ongoing engagement with their land. Through these examples, they illustrate how environmental laws have failed to support the farmers in their restoration efforts with their private properties. However, they also argue that restoration would also not allow private property holders to actively and dynamically remove themselves, as human beings, from the kind of recovery processes that their land and natural environments require.

The significance of private landholders in engaging and assisting with the recovery of landscapes is also recognised by U.S. scholar Anastasia Telesetsky.[18] Whereas Graham and Bartel question how private landholders should engage with their land, Telesetsky critically explores what it takes to push private landholders beyond the *status quo* that stops them from restoring large landscapes. Although no particular type of private landholder is more or less motivated, Telesetsky argues that they are all inclined to adopt a *status quo* position in terms of restoring large landscapes. Given the challenge of motivating private landholders in doing more restoration work, she suggests that landholders' psychological and behavioural predispositions can be shifted through government inspired and supported 'nudges'. In particular, two nudges are discussed: the first includes the idea of funding and actively engaging in community and individual discussions and

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[17]Graham and Bartel (2017), pp 220–246.
[18]Telesetsky (2017), pp 247–273.

planning with private landholders. Ongoing discussions should involve private land-holders in a dynamic process of reflecting about what is happening in terms of the ecology of their land and their land-use practices. The second nudge is a suggestion that 'special purpose restoration districts' be created to actively bring together a range of private and public landholders in a region and to support them to engage with each other around their region's ecological conditions. This process of engagement within 'restoration districts' should help private landowners to avoid taking all the responsibilities for restoring large landscapes and may potentially 'nudge' them to do more.

Restoration projects in large landscapes require creative collaboration by private and public landholders to ensure their long-term success. Whereas Telesetsky suggests that the state can shift private landholders' interests, Nigerian academics Uzuazo Etemire and Menes Abinami Muzan focus on the role of the United Nations Environment Programme (UNEP) in moving the Nigerian government to restore the Ogoniland in the Niger Delta.[19] Drawing on democratic governance theories that have been applied to environmental stewardship more generally, Etemire and Abinami Muzan argue that eco-restoration needs a range of stakeholders and public participants in decision-making activities and actions taken to implement them. UNEP, for instance, was able to focus the recovery agenda for Ogoniland on ecosystem restoration, rather than remediation, by involving a range of community groups and non-governmental organisations in the consultation processes. They argue that engaging a wider range of stakeholders not only enlivened, informed and supported good decisions around restoration goals, it has brought more funding to the project, which is critical for any large-scale eco-restoration project. The involvement of UNEP in developing a report for the severely damaged Ogoniland was a significant initiative, but more critically, the consent of the Nigerian government in allowing a plan to be developed and rolled out, along with the involvement of a range of stakeholders has generated much hope for the recovery of the region. Their article ultimately argues that state-based instruments and powers are not always effective in encouraging implementation of eco-restoration, and that involving other stakeholders meant that in Nigeria they were able to engage in useful discussions and cooperate around solving a significant problem for all who rely on the ecology of the Niger delta.

The papers in this special issue make wide-ranging and engaging contributions, and highlight the potential and problems with eco-restoration as both a normative ideal and a practical governance strategy. The articles are also instructive because of the wide-ranging critiques they provide on environmental law more generally. Our concern with 'recovery' will no doubt continue to dominate how we engage with the natural environment in the Anthropocene and the papers point to blind spots and concerns that we need to remain keenly aware off as we continue relying on environmental laws and community participation to support active recovery efforts. Reform is challenging in the midst of neoliberal capitalist systems that encourage a forward-looking attitude, without always valuing and recognising wisdom, recovery, symbiotic relationships and our emotional experiences such as the fear of fragmenting a landscape to a highway, coal mine or other intrusion.

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[19]Etemire and Abinami Muzani (2017), pp 274–297.

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No potential conflict of interest was reported by the authors.

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