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Conservation covenants for ecosystem restoration: adapting an old instrument to a new global conservation challenge?

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Conservation covenants are an important legal tool for enabling private land conservation, whose significance to policymakers has recently grown in light of new global commitments to expand areas of land and water protected and restored. Covenants' traditional focus on conservation of existing natural values rather than restoration of degraded land or active management of environments impacted by climate change pose significant challenges to the flexibility and efficacy of this legal instrument. In Australia, recent national legal reforms to incentivise private land conservation, notably the new *Nature Repair Act 2023*, will need to consider how it can align with conservation covenanted lands that are regulated by different laws with different criteria and goals. Here we identify some pathways for enabling conservation covenants to play an expanded role in the context of ecosystem restoration and climate adaptation.

KEYWORDS

climate change, conservation covenants, restoration/rehabilitation, private land conservation, protected areas, privately protected areas, climate adaptation and mitigation

1 Introduction

Can conservation covenants strengthen efforts to restore degraded and damaged land in a changing climate? Having endorsed ambitious new global targets for biodiversity conservation and restoration, governments around the world are seeking suitable governance mechanisms to help those who privately manage land to implement such targets (Bingham et al., 2021). As areas with degraded and damaged ecosystems needing restoration are often privately owned and managed, such as farmlands, it is generally not politically feasible nor necessarily the best use of publicly available conservation money for

governments to bankroll the purchase of such areas to put them into public reserves. We need other approaches. The covenant is a legal instrument whereby private landholders voluntarily agree to restrict in perpetuity (i.e. permanently) how their estate is used (Hardy et al., 2017). In recent decades, covenants in many countries have been repurposed to protect natural values (e.g. Rodgers and Grinlinton, 2020). Yet, the capacity of covenants to encourage active restoration of ecosystems — as opposed to passive conservation of healthy ecosystems — is unclear. In addition, climate change will necessitate adaptive and sometimes novel forms of conservation management on covenants in the future (McDonald and Styles, 2014; McCormack, 2018a). Here we consider the potential of conservation covenants, focusing on Australia's experience because of its wealth of relevant practice and because it has pending a major, national legal reform that may influence its approach. Our analysis furnishes insights of international relevance, given the significant numbers of these instruments that have been adopted in Australia as compared to other countries around the world (Bingham et al., 2021).

The global governance framework for biodiversity conservation and restoration is changing rapidly. Landmark initiatives include the Kunming-Montreal Global Biodiversity Framework (GBF) which has a global target of ensuring at least 30% of areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under restoration by 2030 (Target 2), and to protect at least 30% of its terrestrial and inland water areas and marine and coastal areas by 2030 (Target 3) (amongst others) (Convention on Biological Diversity Secretariat, 2022), the United Nations Decade on Ecosystem Restoration, 2021-2030 that commits countries to 'mainstream ecosystem restoration into policies and plans' for 350 million hectares worldwide (United Nations General Assembly, 2019, clause 3(b)), plus various international pledges to enhance climate adaptation such as 'Race to Resilience' by 2030 (United Nations, 2021). Commitment to these initiatives requires that governments partner with private actors including landholders. For example, the United Nations seeks a 'diverse array of stakeholders to be involved', including 'farmer groups' (United Nations Decade on Ecosystem Restoration, 2021). Yet, these initiatives, as is common with international instruments, do not include specific guidance on how to implement the goals nationally or locally.

Traditionally, few governments have adequate laws to facilitate restoration goals (Richardson, 2016), owing partly to a long-standing bias in environmental law to focus on (short-term) future adversities rather than legacies of past mistakes (Richardson, 2017; Telesetsky et al., 2017; McCormack, 2018b). Several correcting legal reforms are in the pipeline, however. In November 2023 the Council of the European Union reached a provision political agreement on a regulation to restore at least 20% of the European Union's land and sea areas by 2030, and all ecosystems in need of restoration by 2050 (Council of the European Union, 2023), and in December 2023 the Australian parliament adopted a *Nature Repair Act 2023* (Australian Parliament, 2023). The success of such initiatives, in Australia and in other legal jurisdictions, will hinge partly on cooperation from private landholders who manage a large percentage of ecosystems needing restoration.

2 Challenges for ecosystem restoration governance in Australia

Recent, authoritative analyses of Australian national environmental law identify deficiencies for biodiversity management and restoration on privately held property (Australian Panel of Experts on Environmental Law, 2017). A review in 2020 of Australia's lodestar statute, the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), bluntly concluded: it 'does not facilitate the maintenance or restoration of the environment. … The scale of the restoration challenge is beyond the ability of governments alone to solve' (Samuel, 2020; see Akhtar-Khavari and Richardson, 2020 for comments). Likewise, the nation's *State of the Environment 2021* report stressed: 'Australia's strategies and investment in biodiversity conservation do not match the scale of the challenge, and … species continue to decline' (Cresswell et al., 2021, p. 14). Past and ongoing biodiversity declines have been primarily due to: invasive species; habitat loss (e.g. agriculture, urbanization); inappropriate fire management regimes; and, increasingly, climate change. The protected area estate, collectively known as the National Reserve System (NRS), lacks adequate representation of all ecosystem types (Taylor, 2020; Fitzsimons et al., 2023). Furthermore, Australia's *Threatened Species Strategy 2022-2032* calls for restoring areas to create climate change refugia (Australian Government, 2022b).

Specialist legal mechanisms for restoration projects in Australia, as in other countries, are only well-developed for discrete contexts such as remediating 'brownfield' industrial sites and former mines (Akhtar-Khavari and Richardson, 2019). By contrast, landscape-scale restoration has often relied on philanthropic and community-led initiatives, alongside government aid and carbon markets money, such as the Gondwana Link project in Western Australia (Bradby, 2013). These voluntary initiatives primarily depend on laws of the Australian states and territories to underpin conservation investment and secure long-term outcomes, such as covenants negotiated between the covenanting agencies and landholders. The transaction costs to broker customized solutions on a property-by-property basis can be high (Richardson and Davidson, 2021) and the federal government mainly assists indirectly such as via bespoke financial grants and the regulated carbon market which can aid restoration by revegetation and soil management. The Australian government also operates an income tax incentive program for conservation covenants under the *Income Tax Assessment Act 1997*, however, its applicability is limited (Smith et al., 2016).

Alongside the *Nature Repair Act 2023*, the Australian Government released a *Nature Positive Plan* in December 2022 (Australian Government, 2022a). The Act and the Plan both contribute to a new national framework for biodiversity restoration. The *Nature Repair Act 2023* will create a system to

certify and register biodiversity conservation and restoration projects using officially approved methods, with verification of environmental outcomes. A market in the resulting certificates will ensue, enabling traders to help meet their legal obligations or voluntarily assumed commitments for 'nature positive' targets. The proposal's design has some parallels to *Australia's Carbon Credits (Carbon Farming) Act 2011*.

Earlier iterations of the *Nature Repair Act 2023* faced considerable criticism, such as from the National Environmental Law Association (2023). Concerns included that the biodiversity certificates could be used as 'offsets' for new environmentally impacting developments rather than furnishing net nature gains (references to 'offsets' were removed before the passage of the legislation through Parliament; Greber, 2023), and the lack of integration of the nature repair market with state government-level initiatives. The Act does not explicitly deal with covenants but, in theory, they would be able to be accommodated given the law's provisions in sections 34 and 89-90 about the type of property-owning interests eligible to participate in a project generating a biodiversity certificate. Yet, as a federal law, the *Nature Repair Act 2023* does not alter the regulation of conservation covenants, which are primarily governed by the laws of Australian states and territories.

3 Conservation covenants

Australia has a relatively high uptake of conservation covenants globally, second only to the United States (US) where they are usually termed 'conservation easements' (Bingham et al., 2021). Covenants are widely used in many countries to promote nature conservation and restoration on private land. In the US their use took off from the mid-1990s under the aegis of some 1,280 private land trusts that as of 2024 conserve approximately 25 million hectares – an area of protected land that exceeds that in all US national parks (Land Trust Alliance, 2024). The law has been crucial to private protected areas in the US via tax concessions and state conservation easement-enabling legislation (McLaughlin, 2013). In England, where covenants originated, there was surprisingly no bespoke legislation for enabling conservation covenants until 2021 when the *Environment Act 2021* (Part 7) was enacted, a reform adopted following recommendations from the Law Commission (2014) to develop a better legal framework for private nature conservation. A distinctive feature of the English approach is the requirement for certain development projects to generate a 'biodiversity net gain', which can be achieved offsite by collaborating with landholders who create a conservation covenant on their property (Ronish and Hilburn, 2022). England's reforms were influenced by New Zealand's long history of conservation covenants since the 1970s under several specialist laws that experts have described as 'very successful' in enhancing public, recreational access to covenanted land whilst protecting biodiversity (Rodgers and Grinlinton, 2020). The International Land Conservation Network (2024) documents many other countries, including in non-common law jurisdictions, using covenants or other institutional tools for facilitating private land conservation.

Covenants were used in Australia to protect natural values as early as the 1920s (Richardson, 2023), but the 'restrictive covenant', as this non-statutory, traditional form is known, only allows negative obligations (e.g. not to remove trees) and the benefit of the covenant must accrue to a neighbouring property (Richardson, 2023). From the 1970s the Australian states introduced legislation, such as the *Victorian Conservation Trust Act 1972* (Vic), that removed some of these restrictions. Table 1 details typical components of modern covenant legislation. Today a conservation covenant is used as a voluntary statutory legal tool that a landowner can choose to enter with an authorised body. Generally, landowners are motivated to ensure that the nature and habitat on their land will remain, no matter who the future owners or managers are. That is, it is intended to provide in-perpetuity (or long-term for leasehold properties) protection for nature on privately owned land so that any new owner of that land is bound by the terms of the conservation covenant.

The advantages of such covenants include assisting altruistic landowners in managing their properties' environmental values and providing legal security for protected values that endure regardless of changes in property ownership (England, 2015). Empirical research suggests covenants in Australia have improved covenantors' environmental behaviour (Groce and Cook, 2022), because they typically rely on *voluntary* participation from landowners. However, covenants can be differentiated from other conservation initiatives on private property such as government land use planning and restrictions on native vegetation clearing. Covenants can work in tandem with these and other initiatives, such as being sites for threatened species recovery activities and biodiversity or carbon offsets. Figure 1 illustrates how covenants

TABLE 1 Examples and components of modern conservation covenant provisions in legislation.

Component	Examples
Terminology	'Land', 'native vegetation', 'natural values', and 'owner'
Location of subject land	Property address, site boundaries, and any areas excluded from the covenant
Relationship of covenant to other laws	Building regulations, municipal land use plans, threatened species laws, and land title legislation
Negative land use obligations	Prohibits or limits clearing vegetation, grazing livestock, lighting fires, disturbing soil, introducing foreign materials, and using agricultural chemicals
Positive land use obligations	Controlling weeds & pests, maintaining livestock-exclusion fences, and applying prescribed fire management practices
Responsibilities of government	Providing financial and/or technical assistance to landholders
Compliance control	Access to the property for site inspections by the covenant agency, issuance of notices, authority of government to enter and complete works to protect natural values, and penalties for non-compliance
Dispute resolution	Availability of mediation or arbitration mechanisms to settle disputes
Alteration of covenants	Procedure for landholder to request a change to the terms of the covenant

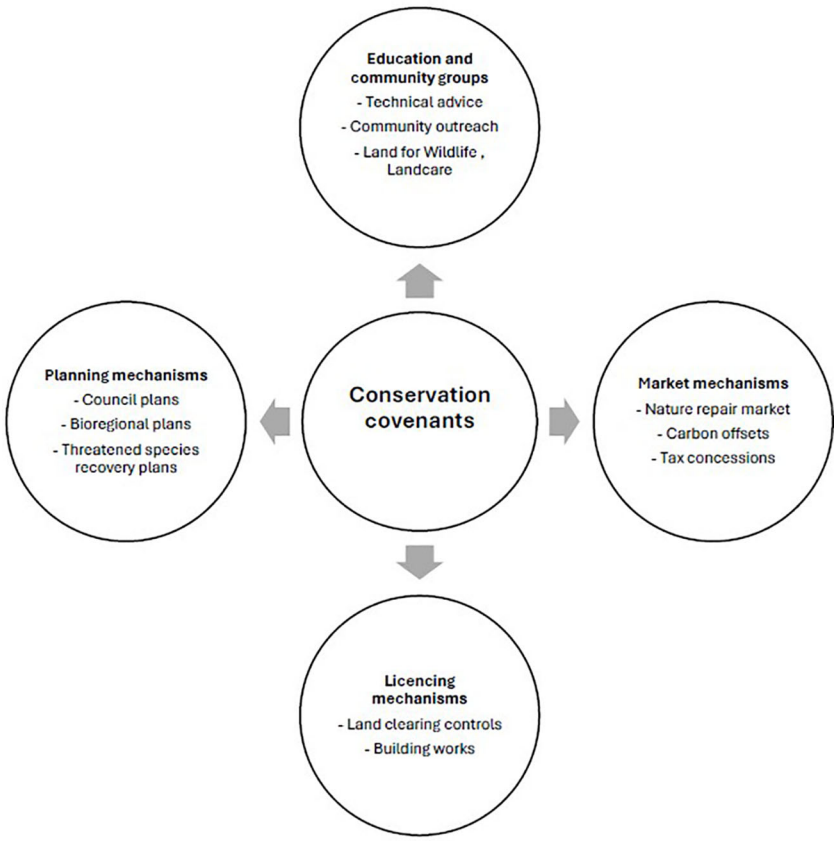

FIGURE 1
Covenants' wider governance context for conserving/restoring biodiversity on private land.

may interact with the broader governance landscape for private nature conservation in Australia.

For Australia to grow its NRS (currently covering 22% of the continent) to meet the 30% protection target by 2030, the Australian government has proposed to add 61 million hectares of new protected areas to the NRS (Australian Government, 2022b). Conservation covenants have so far been applied to nearly 6 million hectares (Australian Government, 2022c), as detailed in Table 2. Recognised in the NRS as a type of 'privately protected area', which also includes private nature reserves, covenants can secure important wildlife habitat, connect fragmented ecosystems and create buffer areas around national parks (Fitzsimons and Wescott, 2001; Fitzsimons, 2015). However, for Australia to meet its international commitments and domestic policy obligations for establishing a comprehensive, adequate, and representative protected area system, it is likely that restored (or 'under restoration') ecosystems will need to be included. Furthermore, existing healthy ecosystems are likely to increasingly require active stewardship to enable their adaptation to climate change, plus creation of entirely new biodiversity habitat for climate refugia (McCormack, 2019). The urgency of climate adaptation was demonstrated by the massive bushfires and then floods in eastern Australia over 2019-2022 that devastated vast areas including national parks and covenanted land (United Nations Environment Programme, 2022).

Notwithstanding the overwhelming positive literature on conservation covenants in Australia (Selinske et al., 2019; Gooden and Sas-Rolfes, 2020), potential challenges have also been identified for expanding their use (e.g. limited financial resources for covenanting agencies to meet demand for new covenants (Fitzsimons et al., 2023) and monitor compliance and/or ecological outcomes on existing covenants (Fitzsimons and Carr, 2014). Covenants have traditionally served to conserve *existing* natural values such as intact native vegetation, and they usually apply only to areas of relatively high conservation value rather than degraded land needing restoration (Fitzsimons and Wescott, 2001; Fitzsimons and Carr, 2014) (see Figure 2). A key challenge is making covenants sufficiently flexible to meet the ambitious international and national goals for ecosystem restoration and climate adaptation. Covenant agencies typically rely heavily on one-size-fits-all legal templates rather than bespoke arrangements that might better accommodate the needs of different landholders or different ecosystems (Archibald et al., 2021). Furthermore, the efficacy of covenants is impacted by the wider governance challenges of private land conservation, including limited financial incentives for landholders to undertake nature-positive measures: given the choice, most landholders will accept financial incentives for set-term agreements over in-perpetuity covenants if both agreement types are offered (Productivity Commission, 2001;

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TABLE 2 Conservation covenant regimes recorded as part of Australia's National Reserve System in 2022; data from Collaborative Australian Protected Areas Database 2022 (Australian Government, 2022d).

Covenanting body in Australian states and territories	Governing legislation	Area under covenant; and percent of state's total land covenanted
NSW Biodiversity Trust (New South Wales)	*Biodiversity Conservation Act 2016*	210,492 ha 0.26%
Trust for Nature (Victoria)	*Victorian Conservation Trust Act 1972*	74,365 ha 0.33%
Department of Environment, Science and Innovation (Queensland)	*Nature Conservation Act 1992*	4,375,857 ha 2.53%
Department for Environment and Water (South Australia)	*Native Vegetation Act 1991*	1,015,726 ha 1.03%
Department of Natural Resources and Environment (Tasmania)	*Nature Conservation Act (2002)*	101,199 ha 1.48%
National Trust of Australia (Western Australia)	*The National Trust of Australia (WA) Act 1964**	16,167 ha 0.10%
Parks and Wildlife Commission of the Northern Territory (Northern Territory)	*Territory Parks and Wildlife Conservation Act 1976*	140,551 ha 0.10%

*Note, these figures do not include Western Australia's Nature Conservation Covenant Program overseen by the Department of Biodiversity, Conservation and Attractions because these are not reported into CAPAD.

Fitzsimons and Cooke, 2021). Opposition by agriculturalists to environmental restrictions has already led to government retreat, in the states of New South Wales and Queensland, from controls on landholders' clearance of native vegetation (Heagney and Kovac, 2021).

One of the biggest challenges in addressing potential risks and resolving whether covenants are sufficiently flexible to support restoration and climate adaptation is the inconsistency in practice across Australian jurisdictions, both in public funding and administration of the conservation covenant itself, as well as their broader governance regime. Illustratively, while relaxing controls on clearing of native vegetation on agricultural land, NSW has invested some AUD$250 million of public money since 2017 to establish 308,116 hectares on 430 private properties of new conservation areas through conservation agreements that include annual payments to landowners (Henry et al., 2023). While this is the most well-funded and active conservation covenant program in Australia (Elton and Fitzsimons 2023), since it was introduced the annual rate of clearing of woody vegetation in NSW increased by a third, with over 379,000 hectares cleared, 83% for agriculture (Henry et al., 2023). Conversely, in Victoria, there are tighter controls on land clearing but limited financial incentives to

FIGURE 2
Map from Tasmania's publicly available Land Information System, illustrating how covenants in an area of southern Tasmania (highlighted in green overlay) are concentrated in forested and relatively intact ecosystems but largely absent from agricultural and settled areas where ecosystem restoration is most needed.

expand covenanted areas apart from the new BushBank scheme (Victorian Department of Energy, Environment and Climate Action, 2023). By further comparison, in Tasmania, the state government is currently unwilling to expand its covenants program (Hiscutt, 2022).

4 The *Nature Repair Act 2023* and conservation covenants

The *Nature Repair Act 2023* may help overcome some of the foregoing limitations. Its focus on creating an *economic* incentive for biodiversity restoration and conservation, through the ability to earn tradeable biodiversity certificates, could help counteract the economic disincentives some Australian landholders face to put a covenant on their land or otherwise to implement nature-positive measures (although how this will work in practice is still unclear) (The Nature Conservancy Australia, 2023). This shift to market-based approaches dovetails with some Australian state-based initiatives, such as Victoria's new BushBank program (Brugler, 2023), however unlike BushBank, the *Nature Repair Act 2023* will not require that all participating lands have a covenant. As a landholder could still create biodiversity credits for the national market regardless — the *Nature Repair Act 2023* option might appeal to landowners unwilling to encumber their property's title permanently with a covenant obligation or to use its provisions for very long-term agreements.

Conversely, a voluntary, market-based approach presents several challenges. The economic benefits of generating biodiversity credits may be insufficient to motivate, for example,

an agriculturalist, to change land use practices when more lucrative, development or carbon opportunities exist, especially if the price point for biodiversity certificates is inadequate. Secondly, whilst the *Nature Repair Act 2023* will create a national-level institution to ensure the integrity of the new market, it is currently unclear how it would create, or provide for cooperation with, sub-national institutions that can work closely with landholders, such as those furnishing technical assistance. Conservation covenant agencies can provide such assistance (Elton and Fitzsimons, 2023). Relatedly, covenants helpfully foster an ongoing relationship between the landholder and the covenant-supervising agency, which can nurture landholders' sense of kinship with like-minded conservationists and boost peer monitoring of compliance with covenants (Selinske et al., 2019). A national market in biodiversity credits, operating remotely from day-to-day land managers, is unlikely to generate these social and governance benefits. Some other features of the *Nature Repair Act 2023* might also detract from its ability to stimulate ecosystem restoration regardless of the covenant context. Notably, the Act will allow the governing Minister to exclude a biodiversity project that 'will have a material adverse impact' on specified items that include 'land access for agricultural production' and 'employment'. These exclusions could potentially exclude environmentally degraded land associated with agriculture that could benefit from restoration and, even if these areas are not excluded, risks creating uncertainty for agricultural landholders about their eligibility to participate in the market.

5 Reforming covenants to facilitate ecosystem restoration

Covenants are not a specialist tool designed for restoration, just as they were not initially designed to create privately protected areas. They have however demonstrated their value in achieving long-term conservation on private land (Hardy et al., 2017) and we suggest six propositions which, if considered, could help to improve covenants' effectiveness in achieving the multiple goals that relate to protected areas, ecosystem restoration, and climate adaptation. These issues reflect not only conclusions drawn from the emerging literature but the direct experience of several of this paper's authors in managing covenanted properties and/or working with covenant agencies in Australia (e.g. Fitzsimons and McDonald, 2021). Some legal scholars have debated more far-reaching reforms, which include revolutionising the institution of private property (Davies et al., 2021). Such ideas are not currently politically feasible to be implementable by 2030. Our focus is how an existing instrument, the covenant, might be reformed to help meet near-term goals.

5.1 Think of covenants as situated within a dynamic governance 'regime'

A covenant should not be understood as a discrete, time-frozen tabulation of legal responsibilities for environmental management. Instead, we propose conceptualising the covenant as a central part of a governance 'regime' in which the protective instrument is nested within a cluster of governance arrangements. The notion of 'regime' has been applied in relation to international environmental agreements (Young, 2012), but the concept can also be applied productively to local scales, helping decision-makers to focus on how a package of actors, instruments and policies can best function synergistically. A covenant's regime includes the covenant administering agency, its overarching legislation, and landholders' biodiversity management plans, as depicted in Figure 3. The regime influences the decisions of private landholders without being directly binding on them. The regime exists independent of actors but the concept allows us to better appreciate what might be the optimal *combination* of actors and tools for ecosystem restoration on private land. For instance, despite protected area objectives and criteria typically not being specifically referred to in covenant legislation, international guidance (Mitchell et al., 2018) and NRS policy have influenced conservation covenant regimes as they have been formally accepted as an important contributor to the NRS (Fitzsimons, 2015). Similarly, there is now an opportunity for national and international standards for ecosystem restoration and climate adaptation to drive conservation covenant practice and encourage covenanting agencies to meet such standards. Lawmakers also need to be more attentive to how covenants interact with other laws and programs within the regime that may affect private land conservation, including tax incentives, carbon offset markets and municipal land use plans, to ensure mutually supportive relationships (Gunningham and Grabosky, 1998).

5.2 Be attentive to different ecosystem types

Ecosystems of course differ in how easily they can be restored. Some wetlands can be passively restored once the obstacles to

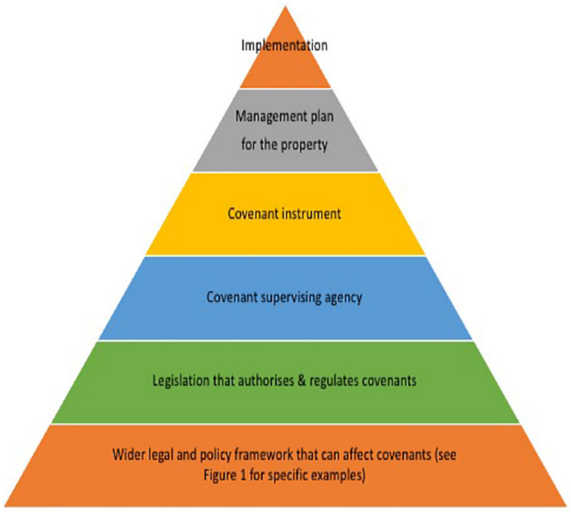

FIGURE 3
The layered components of a covenant regime.

reinstating hydrological conditions have been removed (e.g. removing levees on a floodplain) (WetlandCare Australia, 2023). Some terrestrial ecosystems require more active, ongoing interventions, as with restoration of native grasslands that have lost their seedbanks or been contaminated by agri-chemicals (Gibson-Roy, 2022). Further, reintroducing native wildlife to areas where they were extirpated can involve long-term management of invasive species such as, in southern mainland Australia, of foxes, feral cats and rabbits along with numerous weeds (Stobo-Wilson et al., 2020). For restoration-focused covenants, restoration programs must be specifically designed according to ecosystem, financing available and the type of restoration activities that are therefore being promoted. Thus, lands and waters that are amenable to more passive forms of restoration, may be more easily undertaken using existing governance settings. However, areas requiring complex and ongoing support, active restoration are likely to need more tailored programs with sufficient resources, long lead-in times (to establish seed banks, etc.) and multiple parties to assist in facilitation. Following the example of Trust for Nature in Victoria, a revolving fund model (Hardy et al., 2018) could potentially be used to first buy heavily degraded land to enable its restoration by experts before being on-sold to the market with the covenant added.

Identifying any 'flagship species' in an area, namely highly appealing wildlife species that can serve as an ambassador or symbol for broader ecosystem values, may also be useful, incentivising conservation or restoration of different areas. For example, the presence of koalas – a well-recognised Australian flagship species – on a property has been suggested to make landholders and other stakeholders more likely to agree to protection measures (Schlagloth, et al., 2018). For areas lacking flagship species, however, it is important to focus on highlighting other potential benefits to landholders (Kusmanoff et al., 2016).

5.3 Be attentive to different landholder types

We need to make covenants more attractive to a wider array of landholders. Presently, conservation covenants in Australia, as in other countries, appeal mainly to landholders who are already conservation-minded and do not wish to make economic use of that section of their property (Groce and Cook, 2022). For corporate and agricultural land users that prioritise economic development of their land, the regime in which covenants sit need to better reward landowners for the public good they are providing (which includes foregoing development and future land use change rights). By restoring ecosystem services essential for agriculturally productive landscapes, covenants can also help integrate nature conservation into economic decision-making (Matzek et al., 2019; Fischer et al., 2021). Streamlining how the various emerging environmental markets interact is also going to be necessary so as not to penalise early movers. We recommend moving away from the preference for a one-size-fits-all legal template, to a more diverse offering of covenants that can be applied transparently on a case-by-case basis according to the ecological needs of the property and preference of the landowner, while still ensuring that a standard of environmental protection is provided by the covenant that meets NRS protected area criteria (as guided by the international standard). Diverse offerings could also be relevant to First Nations landowners whose protocols of 'caring for Country' can assist ecosystem restoration, but where the covenant – and the regime itself – may need to be adapted to dual cultural and conservation agendas (Brugler and Richardson, 2023).

Set-term conservation agreements can be important tools for landholders unwilling to commit to conservation covenants. Although set-term agreements have been seen as a 'stepping stone' to conservation covenants, there is, so far, little evidence to suggest this occurs (Fitzsimons and Cooke, 2021) and greater attention to the social and financial influences for this are required. Where landholders otherwise oppose a covenant, rather than wholly foregoing their participation, we recommend a stepping-stone approach using intermediary tools. In the Tasmanian Midlands where ecosystem restoration projects are underway, 5-year or 10-year conservation contracts with financial aid have been offered to farmers that have been reluctant to enter longer-term agreements (Cowell et al., 2013; Gilfedder et al., 2021). The use of conservation contracts, which only bind the current landholder, can provide an interim tool to achieve 2030 restoration targets, however, clearer strategies are needed to ensure the outcomes from investment in restoration continue to be realised once the contract expires.

5.4 Expect more government leadership

Taking a regime perspective seeks to establish solutions for achieving optimal interactions within and across the regime. We suggest that conservation covenants can be used to help deliver internationally agreed restoration and climate adaptation, alongside protected area targets. But in doing so, the national government needs to provide greater support to covenant administrators across jurisdictions. Funding from the Australian government to covenant agencies and landholders to fulfil a larger mandate should come with associated obligations to achieve agreed environmental outcomes. While federal aid and associated funding conditions for covenanting bodies is not a novel proposition, there has been an increasing reluctance from the national government to contribute funding to state-based conservation covenanting programs, and certainly not at the levels required to effectively achieve protected area targets (Elton and Fitzsimons, 2023).

5.5 Build climate adaptation capacity into covenants

Whilst we need to retain the permanency of the covenant, as long-term legal security helps protect restoration work by landholders, we also need flexibility to change ongoing management to address new circumstances such as the impacts of climate change, both following stochastic events such as floods and fires, but also more gradual events such as vegetation changes and invasive species. Covenants also need to have sufficient flexibility

within their terms, to enable landowners to undertake climate-adapted restoration activities (which may be experimental, such as species relocations and hydrology restoration). The flexibility of covenants to allow for this appears to be mixed across jurisdictions. The well-established theoretical paradigm of adaptive environmental management has principles useful for guiding ecosystem restoration, including principles of responsiveness, iterative decision-making, and collaborative subsidiarity (involving decisions made at the lowest feasible governance scale) (Chaffin et al., 2014; Lubell and Morrison, 2021). Existing features of covenant governance provide opportunities to introduce adaptive forms of management. The current practice of renegotiating every 10 years a new management plan for a covenanted property provides an opening to adjust covenants to new circumstances, including to facilitate climate adaptation, although more frequent updating of management plans may be necessary in some situations such as after major bushfires. While covenant agencies' strategies are increasingly building climate change considerations into their practice (South Australia Native Vegetation Council, 2023), governing laws typically do not refer to climate change. Ultimately, without a sufficiently supportive statutory framework, the extent to which conservation covenant regimes can deliver restoration will be limited to pockets of innovation, rather than a broadscale institutional approach. More focus on climate adaptation will also require covenant regimes to build stronger ties to other actors and laws, such as emergency services (e.g. Halliday et al., 2012), to build capacity to manage the impacts of climate change, such as compounding and increasingly extreme events, in ways that are also ecologically sound.

6 Conclusion

Private landholders are expected by governments to play a greater role in biodiversity conservation and restoration to help meet international goals such as those set by the Kunming-Montreal Global Biodiversity Framework. Like some other countries such as England, Australia is modernising its environmental laws including new legislation to support a nature repair market to help it implement the new global goals by 2030. The covenant is an old instrument from the nineteenth century that in the 1970s began to be modernised by lawmakers to encourage private landholders to practice nature conservation. Today, a new generation of environmental challenges need to be addressed in which it is no longer sufficient to merely conserve nature; it must also sometimes be restored and made more resilient to climate change. We suggest that covenants can fill an important niche in private land conservation but to help deliver the new agenda of climate-adapted restoration at scale, some adjustments are necessary. We furnish ideas of international relevance for modernising conservation covenants in Australia. Greater research that compares the experiences of different countries applying or reforming their laws and policies for conservation covenants will be helpful.

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