

Property institutions for rural land conservation: towards a post-neoliberal agenda

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Abstract

The delivery of ecosystems services and conservation of biodiversity relies on the control of land for the provision of public benefits. Much has been written about the progress of neoliberalisation, typically implying that land management decisions are increasingly being left to market forces. However, less has been made of the areas in which the state has extended its control over land or where freehold rights have been attenuated. At the same time, there are intimations that the neoliberal hegemony may be waning. This paper explores approaches to the governance of rural land beyond the neoliberal agenda, drawing particularly on two cases: the proposals for the privatisation of the Public Forest Estate in England and the subsequent recommendations of an Independent Panel on Forestry and the emergence of Large Conservation Area initiatives introduced by non-governmental organisations. It is important to recognise that the crafting of institutions

determines the mix of private and public values of land and the incentives for management. We focus particularly on three important elements of governance. Institutional blending relates to the ways in which property rights are spread amongst different interested parties. These arrangements identify the residual claimant that bears the risk and ultimate return from land holding. Ultimate oversight of property use requires public trust to be identified. Research is needed on the operation of these institutions in practice. Governments will need to develop approaches to be able to define and promote public values in rural land uses.

Key words

Rural land management, biodiversity conservation, forest management, property institutions, post neoliberalism, environmental governance

Highlights

Neoliberal mechanisms enhance the state's capacity to control rural land

New institutional arrangements are emerging in forestry and conservation

Property institutions determine values and incentives

Property rights are increasingly blended across different ownerships

The character of the residual claimant determines values that guide land management

The state has a duty of public trust in respect of the public values of resources

1. Introduction

Neoliberalisation has brought about significant changes in the way nature is governed (Peck and Tickell 2002; McCarthy and Prudham 2004; Castree 2008) and in the way it is conserved (Hodge and Adams 2012, Büscher *et al.* 2012). In particular, ecosystem services have become an increasingly important element in environmental policy, and of framing environmental management (Kosoy and Corbera 2010, Norgaard 2010). The delivery and maintenance of ecosystem services relies substantially on the control and management of land. This applies especially in the conservation of biodiversity and landscapes, where effective provision typically requires long term commitment to land uses that generate lower financial returns than are available through more market driven alternative uses and managements, and implementation at a scale that is typically greater than the areas of land under any single landownership. Such provision is generally regarded as being for the public benefit and beyond the reasonable expectations of delivery by a private owner (Lockie, 2013). In such a context, provision may be implemented in various ways, including public ownership or payment of incentives to private owners by the state through some form of targeted payments for eco-system services (Kosoy and Corbera 2010) or agri-environment payments (Hodge, 2013). However, such an approach faces a number of limitations (Hodge, 2001). The delivery needs to be directed through some type of environmental contract that sets out the requirements and

payments involved. This creates problems of adverse selection and moral hazard, and inevitably cannot cover all possible contexts and contingencies. Moreover, contracts are for a finite period of time and this creates uncertainty as to the capacity of the arrangement to deliver conservation benefits over the long term.

An alternative to the implementation of an environmental contract, or in parallel with it, is the potential for the development of alternative property arrangements over the land. Alternatives to private, commercial landownership can address a variety of the limitations of environmental contracts. The property owner, whether a public body or non-profit organisation can share the public policy objectives that motivate the implementation of environmental contracts while at the same time leaving the choice as to how best to deliver environmental benefits to the land owner/manager on the ground. The owner/manager thus bears the opportunity cost of resource management decisions and in principle can select the socially optimal approach to delivery of the conservation objectives.

The introduction of public or collective property ownership would appear to fly in the face of the current policy presumptions of neoliberalism that has pushed back the realm of the state and expanded the role of the market. In this paper we argue that neoliberalism has been less pervasive in terms of its influence over land and property relations than has generally been acknowledged in the literature (e.g. Harvey, 2005). While neoliberalisation has been extensively discussed, particularly in the geographical literature, albeit recognising its complexities and internal inconsistencies, other disciplines, such as in environmental sciences or in law, have given greater emphasis to the expansion of the role of the state in regulating private interests and the socialisation of property relations. There is also a discussion of the possibility of a 'post-neoliberal' era (e.g. Peck et al. 2010), and certainly neoliberalism continues to evolve, creating opportunities for private sector, government and civil society organizations to pursue their interests and agendas. In this

context, it is timely to review the possibility of alternative property arrangements that may be appropriate for the delivery of land conservation objectives in a world in which the policy assumptions and prescriptions being assumed are less dogmatic and more flexible.

In Section 2 we outline the contested nature of neoliberalism and some alternative perspectives from other disciplines. We then argue in Section 3 that neoliberal institutional mechanisms have the potential to enable state influence over rural land conservation. In Section 4 we introduce two cases that have informed our thinking about the potential property institutions: the plans to sell the Public Forest Estate and the adoption of Large Conservation Areas. The requirement to craft institutional arrangements to reflect particular contexts and determine values is introduced in Section 5. We then discuss three key elements in institutional development: institutional blending, the residual claimant and public trust. Finally, we draw some conclusions in Section 6.

2. Intimations of post-neoliberalism

The neoliberal project has been a major focus for public policy around the world for the past quarter of a century, spreading from the early doctrines of monetarism and privatisation, through to a plethora of forms of neoliberalism. Harvey (2005, p.2) comments that neoliberalism is “in the first instance a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets and free trade”.

A key argument at the micro level is that privately owned firms operate so as to maximise efficiency. The decisions within the firm will ultimately be directed by the residual claimant who receives the net returns and bears the residual risk arising from the activity of the firm represented by the net cash flows, the difference between the stochastic inflows of resources and the promised payments

to agents (Fama and Jensen, 1983b). The owner as the residual claimant will have a clear incentive to maximise the difference between cost and returns and to monitor employees' behaviour in order to promote this objective. She will select amongst the institutional arrangements available within the firm, contracts with external agents or market operations in order to make the best use of the firm's capacity and resources. Efficiency will be driven by competition in markets for inputs and outputs, obliging firms to be sensitive to customer preferences and to finding cost effective production methods. Inefficient firms will be at a disadvantage, losing market share or facing potential bankruptcy or takeover by competing managers who can make better uses of the firm's assets. Under neoliberal government, these same arguments are deployed to the management of public bodies. There was a resurgence of interest in privatisation under the incoming Conservative/Liberal democrat government in 2010, notably in the context of forestry. However, the debate about privatisation differed from the debate that was prevalent when the Conservatives were last in power in the early 1990s. While there is evidence that privatisation can in certain circumstances improve the performance of economic activity, it is increasingly disliked by the public, potentially because the potential benefits have been oversold by governments (Kikeri and Nellis, 2004). The beneficial effects of privatisation are essentially dependent on the introduction of effective competition in product and capital markets (Kay and Thompson, 1986; Vickers and Yarrow, 1991). This does not rely especially on the ownership of the assets (Letza et al., 2004).

Similar arguments apply to the ownership of land. Demsetz (1967) argues for the superiority of private property rights in land ownership in promoting efficiency. But even Adam Smith, the icon of liberalism, recognised a role for public landownership. He was concerned that the Crown owned substantial areas of land but that these were poorly managed and failed to deliver as much revenue as they should do. He comments that "When the crown lands had become private property, they would, in the course of a few years, become well-improved and well-cultivated" (Smith, 1776, p. 421). However, he recognised that this not would not apply to all land. "Lands, for the purposes of

pleasure and magnificence, parks, gardens, public walks, &c. possessions which are everywhere considered as causes of expense, not as sources of revenue, seem to be the only lands which, in a great and civilised monarchy, ought to belong to the Crown” (p. 422). This suggests that, in his view, land used for the provision of public goods might be kept under public ownership.

The contested and contradictory character of neoliberalism is well recognised. The scope of neoliberalisation has been extended to embrace a complex of policy directions (McCarthy and Prudham, 2004, Peck and Tickell, 2002) and is not homogenous or universal (Castree 2008). More straightforward developments of privatisation, including ‘roll-back neoliberalism’ (deregulation and dismantling of the activities of the state) or ‘roll-out neoliberalism’ (regulatory reform and reconstruction of the state around neoliberal models) have been succeeded by further elaborations, some involving an increased degree of state intervention. Harvey (2005) recognises the internal contradictions where the neoliberal state “is itself forced to intervene, sometimes repressively, thus denying the very freedoms it is supposed to uphold” (p69). Sandberg and Wekerle (2010, p. 53) for instance comment that “command and control measures can serve neoliberal processes”, arguing that such a “roll out regulatory measure” in the Oak Ridges Moraine “supports privatisation and marketization”. While McCarthy (2005) characterises the development of community forestry as ‘hybrid neoliberalism’, Cole (2002) characterises the similar development of land trusts in terms of ‘publicization’. With “an almost bewildering array of local trajectories, contingent forms and hybrid trajectories” Peck et al. (2010) ask whether we are entering a post-neoliberal world. Given these complexities and contradictions, we have explored elsewhere the possibility for an alternative institutional approach that we term ‘institutional blending’ that recognises the variety and complexity inherent in developing analysis of property and environmental management, without the implicit or explicit assumptions about a government’s core values and objectives (Hodge and Adams, 2012). Choices as to the appropriate arrangements for the governance of land raise a set of issues concerning the reallocation of property rights between agents, decomposing and recomposing the

bundles of rights held by alternative types of agent, the development of new types of organisations and partnerships to hold and control property rights and co-ordinate decisions, especially non-profit and collective, and engineering alternative internal governance arrangements to reflect those collective interests in terms of the ways in which resources are controlled and used. More recently, the changed state of the global economy generally and the widespread financial crisis in particular have demonstrated the capacity of the state to put market principles aside and to re-introduce substantial levels of public ownership (Peck, et al. 2010, Cumbers, 2012). These changes might be seen as presaging a more fundamental development in policy flexibility; a period that we may refer to as post-neoliberalism.

At the same time, other authors have argued that there have been countervailing forces that have significantly expanded the areas of public influence and control, even through the height of neoliberalisation. Everard (2011) in particular argues that the 20th Century represented a period over which the commons were substantially reclaimed for the public interest. He comments (p. 150) that the “recognition and progressive safeguarding of the public value of land, water and ecosystem services expanded significantly throughout the twentieth century”. Some of this came prior to the era of neoliberalism, particularly in the seminal legislative innovations in mid century, and some has been implemented through the provision of payments, such as for agri-environment schemes, forestry management or renewable energy, that have left landholders’ property rights unconstrained. But much too has been implemented through the attenuation of private property.

In this vein, lawyers have pointed to the erosion of the rights of freehold property owners that have weakened private property rights. Lacy and Mitchell (1996) for instance regard freehold ownership to have been sufficiently diluted to the extent that they argue that it might better be regarded as land stewardship. Rights of landowners have been restricted, *inter alia*, in support of the common interest in water and air quality, conservation of biodiversity and landscape, in protecting the

historic and urban and landscapes, in mitigating emissions of greenhouse gases, and in promoting public access to private land. Advances have been made in attenuating private property in the collective interest in all of these areas in the period since the mid 1980s. Pascoe (2012) discusses the 'erosion of land ownership' focussing on the obligations to allow access to countryside and coast under the Countryside and Rights of Way Act, 2000 and the Marine and Coastal Access Act, 2009, the ban on hunting wild mammals with dogs in England and Wales under the Hunting Act, 2004, and the introduction of Empty Dwelling Management Orders under the Housing Act, 2004. But a wide range of other types of erosion of private property in land might have been noted, such as represented by the introduction of restrictions over agricultural practices to reduce water pollution in Nitrate Vulnerable Zones, the enforcement of restrictions without compensation in the management of Sites of Special Scientific Interest, the introduction of limits over development within National Parks, conditions imposed over forestry operations subject to approval by the Forestry Commission, or the introduction of requirements for Environmental Assessment.

In a notable change in property relations, the past century has seen a steady shift towards the formalisation and enhancement of the public's right of access across private property. In England and Wales, this is reflected in the 1949 National Parks and Access to the Countryside Act and the 2000 Countryside and Rights of Way Act. In Scotland in particular access to the countryside has been widened under the Land Reform (Scotland) Act 2003, but by adopting a novel approach (Rowan-Robinson, 2003). The new legislationⁱ establishes a general right of access to all land for recreational purposes, for relevant educational activity or to cross the land. The right may be exercised on foot, on horseback, on bicycle or in a boat or canoe. Certain areas of land are excluded, such as buildings and their curtilages, land required for adequate privacy for dwellings and land on which crops are growing, although even here access rights do extend to field margins or orchards. Access is permitted to sports fields and golf courses provided that it does not interfere with sporting use. But a key feature is that access must be exercised 'responsibly', in such a way as "not to cause

unreasonable interference with any of the rights (whether access rights, rights associated with the ownership of land or any others) of any other person". At the same time, the Act imposes a duty on land owners to use and manage their land and otherwise conduct their ownership in a way that is 'responsible'. They will be presumed to achieve this if they do not cause unreasonable interference with the access rights of those exercising them (Lovett, 2011). The flexibility in the legislation and reliance on good behaviour leaves many issues ill-defined and open to interpretation that has to be provided through case law. But the approach undoubtedly represents a substantial and rather open-ended interference with the right of a landowners to exclude others from their property. Gray (2010) refers to these sorts of developments in public access rights as "quantum steps on the road toward pedestrian democracy" (p63).

These examples suggest that the pattern of change in the governance of land has been more diverse than sometimes implied, notwithstanding the recognition of the complexities within neoliberalism.

2.1 The opportunities of neoliberal mechanisms

Without needing to pass judgement on the overall implications of the neoliberal programme or rehearsing the critiques, we do argue that it has opened out the range of mechanisms that are available for state guidance of land and resource management. It has emphasised the spectrum of potential ownership arrangements between pure state ownership and profit driven private ownership. The more flexible approach towards governance through contracts or partnership arrangements allows both public and private bodies to tailor motivations and incentives towards specific circumstances. Incentives can be guided through such mechanisms as environmental contracts, transferrable permits, covenants or offsetting. The rigours of competitive processes can be turned towards the promotion of greater cost-effectiveness in pursuit of public policy objectives. Such arrangements can be adopted in co-ordinating land use decisions across larger areas of land.

Policy objectives that could only have been approached through the outright acquisition and management of land by government in pre-neoliberal times can now be pursued through environmental contracts or indirectly through intermediary organisations, such as conservation trusts. There is a very real sense in which the potential for the public to recapture the commons has been facilitated by the institutional mechanisms pioneered through neoliberalisation.

3. Two emergent cases

The application of these opportunities can be assessed in the context to two significant developments in land conservation in Great Britain: the debate as to the potential privatisation of the Forestry Commission Estate in England and the development of Large Conservation Areas. In both cases, consider the opportunity for a comprehensive re-assessment of the institutional arrangements for the management of forested and conservation land and the role for public trust in providing oversight and guarantee for public stewardship values.

3.1 The Public Forest Estate in England

Towards the end of 2010, the UK Conservative-Liberal Democrat coalition government indicated that it was minded to privatise the Public Forest Estate (PFE) in England (Hodge and Adams, 2013a). This proposal promoted a major public response in favour of the retention of the estate in public ownership; in an opinion poll, 84% agreed that woods and forests should be kept in public ownership for future generationsⁱⁱ and well over half a million people signed a petition demanding that the government “Save our forests – don’t sell them off to the highest bidder”ⁱⁱⁱ. Arguably, the vehemence of the public reaction against the sale of the PFE might be attributed to the sort of issue that Sagoff (1988) characterises as a category mistake. The initial proposal for the privatisation of the Public Forest Estate appears to have been motivated by a general sense in the new coalition

government that the private sector can perform better than the public sector and a requirement for government to raise funds at a time of financial crisis^{iv}. The problem was cast by government in terms of finding the best means of delivering economic benefits from forests, recognising that some of them have public good characteristics and more generally, that the government has adopted an ecosystems services approach towards the natural environment (DEFRA, 2011), emphasising the identification, valuation and effective commoditisation of ecosystem services (UK NEA, 2011). In contrast, the public saw the issue of forest ownership as a matter of principle, of values rather than preferences (Sen, 1977), so that the question perceived by the public was not primarily to identify a cost-effective form of delivering services, but rather to maintain the 'right' form of governance.

As a consequence of this reaction, the government curtailed the public consultation exercise and appointed an Independent Panel to undertake a wider review of forestry policy. After further consultation and review, in its final report, the Independent Panel on Forestry (2012) concluded that forestry and woodland were greatly undervalued and that that area of woodland in England should be expanded from its present 10% of the land area to 15% by 2060. They also recommended that the PFE should remain in public ownership. They proposed that the estate should be treated as land "held in trust for the nation" whose management would be overseen by 'Guardians' or 'trustees' who would be directly accountable to Parliament. These recommendations were subsequently almost entirely accepted by government (DEFRA, 2013).

3.2 The control of land for Large Conservation Areas

The second case that has informed our thinking relates to the development of initiatives for large scale conservation in Britain (Macgregor et al. 2012, Adams 2012, Adams et al. 2013). Ecological science has increasingly emphasised the limits of wildlife conservation focussed on relatively small isolated sites and advocated approaches implemented at a larger scale. This 'landscape' or

'ecological network' approach was been stressed in an influential report by Lawton et al. (2010) and subsequently sanctioned by a government White Paper (Defra, 2011). The redirection of policy signalled in the White Paper following a number of major initiatives for large scale conservation already being introduced by conservation NGOs. These initiatives represent a substantial expansion of the scale and ambition for wildlife conservation (Adams et al. 2013).

A great diversity of large conservation areas exists. Macgregor et al. recognise several categories: first, conservation areas with a single landowner, such as private estates or owned nature reserves; second, conservation areas or projects involving a small number of landowners as active partners (for example managing neighbouring properties in a unified way); third, the areas within which government environmental farming schemes are targeted (e.g. Higher Level Stewardship or Catchment Sensitive Farming); fourth, multi-landowner projects where many property owners and managers come together. Most conservation NGOs in the UK have LCA programmes. The National Trust launched the Wicken Fen Vision project in 1999, the RSPB first proposed 'Futurescapes' in 2001 (launching the programme in 2010, RSPB, 2010) and The Wildlife Trusts launched its 'Living Landscapes' programme in 2005 (Wildlife Trusts, 2011). Other organisations include the Woodland Trust (2002) , Butterfly Conservation (Ellis et al., 2012), John Muir Trust, Wildfowl and Wetlands Trust, National Trust for Scotland, Woodland Trust).

A survey in 2011 found a total of 244 large conservation projects across the UK (Elliott et al. 2011): Of these, 72% were in England, 19% in Scotland, 6% in Wales and 2% in Northern Ireland. The number of Scottish projects was almost certainly underestimated. LCAs rely heavily on the development of partnerships amongst a variety of different types of landowner. Partner organizations include individual landowners (ranging from large estates to small farms or other owners), various forms of charity, trust or non-governmental organization, research institutions, Local Authorities (County or District Councils), government bodies (national conservation agencies),

and private companies (utilities, mining companies, transport infrastructure). Some initiatives are built on existing partnerships, and indeed on existing landholdings by the lead organisation (e.g. RSPB Futurescapes or Wildlife Trusts Living Landscapes that are centred on existing nature reserves held by these NGOs). Other partnerships are newly created, for example the Clyde and Avon Valley Landscape Partnership, which is led by the South Lanarkshire Council with nine partners (Scottish National Heritage, Scottish Wildlife Trust, RSPB, North Lanarkshire Council, Clydesdale Community Initiatives, Rural Development Trust, New Lanark Trust, Central Scotland Forest Trust and the Forestry Commission).

The core feature of LCAs is the attempt to co-ordinate the management of rural land at a larger scale than has been practiced or indeed generally possible since the substantial demise of the great landed estates early in the 20th century (Thompson, 1963). Various different approaches have been used to achieve this, ranging from informal understandings amongst the parties involved to the creation of independent legal bodies. The whole movement is substantially funded through the operation of agri-environment schemes and, to a lesser extent, other public grants. The initiatives are thus vulnerable under present arrangements to changes in other relatively unrelated policy regimes, especially the reforms of the Common Agricultural Policy, and dependent on the resilience of the institutional arrangements under which they are operated (Adams et al., 2013).

4. Crafting alternative institutional arrangements

The challenges of neoliberalism have not reignited faith in traditional forms of public provision. Decisions taken by politicians are also regarded with suspicion and a degree of dissatisfaction on account of the short term and party political nature of many political motivations. This is an example of the 'post-political' where "an elite is charged with making decisions that are removed

from, but seen as being on behalf of, the rest of us” (Cumbers, 2011, p93). The Independent Panel on Forestry (2012) comments on the need for “freedom from short-term political interference to take a balanced and impartial view of the distribution of resources and benefits across the estate ... accountable to Parliament rather than Ministers with a clear long-term Charter and funding”. Of course this may still be vulnerable to capture by some other interests and this remains a responsibility of Parliament by some means or other. There is thus a search for alternative forms of governance that provide space for competing interests to negotiate approaches towards rights and duties and land management objectives.

Establishing appropriate governance is thus more about crafting institutions for particular social objectives in particular circumstances than it is about privatisation or neoliberalisation. Vatn (2005, p.203) argues that “the core policy issue is to determine which institutional frameworks are most reasonable to apply to which kinds of problem”. From a social constructivist perspective, choices reflect the norms, rules and expectations as reflected in the institutions of a society. “Common knowledge in the form of concepts or *typifications* of both natural and social phenomena constitutes the basis for creating necessary meaning and order so that cooperation becomes possible” (p206, italics in original). The sharing of a common acceptance, or typification, makes it an institution influencing values and decisions.

Thus for instance, in the case of the debate about the sale of the Public Forest Estate, it is plausible to argue that there was a conflict between the market oriented rationality of the government in its proposal to sell the public forests and the apparent rights based rationality presumed for the role of the public forests by the public. The process of public debate and the 42,000 submissions made to the Independent Panel on Forestry may be seen as a process of formulating or typifying the issue for the process of policy formulation. There is a parallel here with respondents’ reactions against the

commodification implicit in an economic valuation of lowland heath on the grounds that they believed that the heaths 'should' be common land (Spash and Hanley, 1995).

Institutions also influence valuations. Vatn (2005, p211) defines value articulating institutions as a constructed set of rules or typifications. Thus different institutions will give different outcomes or solutions. In the context of the provision of unpriced public good outputs or ecosystem services, the weight given to the alternative outputs will reflect the influence that different interests have in the decision-making processes of the organisation managing the land. The governance arrangements for the management of particular areas will then influence the management decisions arrived at and the balances selected between alternative private and public goods, or ecosystem services. This institutional context will also influence the way in which those affected, whether in working for organisations or as visitors, respond to the opportunities available to them. For instance, voluntary organisations may help to crowd in pro-social behaviour or mitigate agency problems arising in commercial firms. At the same time, recall that market incentives under competition can also act to improve motivations and promote cost-effectiveness. There is thus a balance to be struck and different governance arrangements are likely to be appropriate in different contexts.

5. Three key dimensions of property relations

In what follows we concentrate on three key aspects of institutional arrangements: institutional blending, the residual claimant and the maintenance of public trust.

5.1 Institutional blending

We have defined institutional blending elsewhere in terms of recomposing property, assigning property rights, developing partnership arrangements and engaging with non-profit organisations

(Hodge and Adams, 2012). Rural land generates a variety of outputs and ecosystem services with different degrees of public interest and recognised as being of differing degrees of significance. The Millennium Assessment (2005) distinguished provisioning, regulating, cultural and supporting services, but these are highly interdependent. The UK National Ecosystem Assessment (2011) distinguishes between final ecosystem services that directly involve provision of good and benefits to society, and the underpinning ecological services within ecosystems. Ecosystem processes such as nutrient cycling or pollination give rise to final ecosystem services (crops, trees, flood regulation), and in turn to goods (cereals, meat, timber, and wildlife valued as a cultural service, Mace *et al.* 2011). The ability of private landowners and public to gain from goods produced by ecosystem services (crops, landscape, biodiversity, water conservation, heritage conservation and public access) varies. One approach to the question of governance is to consider what type of ownership is most likely to lead to an outcome that in some way reflects wider public interests. There are a number of options relating both to the type of owner and the period of time over which it applies:

- State ownership, directly managed or with activities contracted out,
- Private for-profit ownership, freehold or leasehold, subject to regulations with potential for contracting for the provision of public goods,
- Non-profit ownership, freehold or leasehold, subject to regulations with potential for contracting for the provision of public goods.

The appropriate arrangements are likely to involve some blend of the institutional options reflecting the circumstances of particular land areas. In principle the institutional structure should be designed to address the most important decisions relating to selection of outputs and methods of production.

Table 1 indicates some of the more important factors.

[Table 1 here]

There will also be an optimal institutional intensity of governance. More complex governance arrangements or engagement with larger numbers of stakeholders in more detailed ways clearly increase the transactions costs of governance. It may be expected that more complex governance can improve the quality or representativeness of decisions taken or reduce agency problems but only by increasing the transactions costs. There is thus likely to be a trade-off between the efficiency of the management processes and the transactions costs. Lighter touch governance will be preferred where the management options are few or the value of the outputs is relatively low.

Achieving the necessary management requirements over larger areas of land for wildlife conservation is less about the ownership of the land and more about the means by which groups of owners of different types can work in partnership. Different types of organisations can play to their individual strengths; non-profits may lever in donations or voluntary labour, or commercial organisations may operate profit-making ventures that can generate funds to cross-subsidise other aspects of the work. Neoliberal mechanisms offer some organisations a means whereby they can influence land management beyond any property that they own themselves without the cost and responsibilities of freehold land ownership.

At its most simple, this can involve advice and guidance, possibly supplemented by financial or other support. Such arrangements are common in large conservation areas, where for example the key plank of work by Butterfly Conservation is helping farmers apply for agri-environment support that will favour butterflies and moths (Ellis et al., 2011). Beyond this, there can be written agreements between landowners in the form of environmental contracts or covenants (Law Commission, 2013) for land to be managed in particular ways. An example of this might be the Marlborough Downs Nature Improvement Area (NIA) on Salisbury Plain, which is a collaboration among a set of neighbouring farmers to win funds from the £7.5 million available from DEFRA as seed funds to

support twelve projects 'restoring and connecting nature on a significant scale' (DEFRA, 2011a, p. 21). Partnerships may be fully formalised in legal terms through the creation of a separate, independent organisation to take control of the project. Such organisations have been established for example in order to govern the implementation of agri-environment projects (Franks and Emery, 2013).

5.2 The residual claimant

These governance arrangements will determine the identity and character of the residual claimant. The residual claimant is generally the agent that holds property rights over the assets of an organisation. In the case of a non-profit organisation, there are no agents with alienable rights to residual net cash flows (Fama and Jensen, 1983a p.318) and thus, in that sense no residual claimants. However that does not mean that there are no residual risks, rather the risks are borne by consumers or the beneficiaries of the non-profit's activities and by the factors used to produce the outputs (Fama and Jensen, 1983b). Enjolras (2009) differentiates residual claims between residual control and residual income. In effect, inalienable residual claims are vested in a board of trustees and net cash flows are committed to current and future output (Fama and Jensen, 1983b, p348). Speckbacher (2008 p. 305) comments that "residual rights of control include the right to interpret its mission and turn it into something more concrete by formulating organisational objectives, the right to specify how this mission is best realized and the right to make all management decisions". In practice, some of these rights will be delegated.

However, the residual claimant's objectives will never match perfectly with an 'ideal' public interest, whether the property is owned by a private, state or non-profit organisation. The approaches adopted by any of them will be influenced by the incentives within the organisation, legal constraints and government policy. And particularly, the agency problem is still present in non-

profits. Donors will only contribute to a non-profit organisation if they have confidence that the funds will be well spent towards the objectives of the organisation as a whole. The risk that donations will simply be directed towards increased returns to shareholders will undermine the potential for donations to for-profit organisations. The absence of residual claimants to cash flows avoids the problem of the advantages attained through the donations to an organisation being siphoned off to the residual claimants (Fama and Jensen 1983b), but the non-profit still faces agency problems in that the objectives of those working in it will not align completely with the objectives of the organisation. This is addressed by the separation of management (initiation and implementation) and control (ratification and monitoring) (Fama and Jensen, 1983b, p.344).

Voluntary organisations may be either membership organisations or board-managed. In either case, there will be a board of directors or trustees who take oversight of the operation of the organisation. The board of directors or trustees holds the power to monitor and ratify important decisions and to hire and determine the employment conditions of senior staff. At the same time, while the board are likely to have limited liability and be unpaid, they are still likely to face penalties if the organisation is improperly run or trades while in a state of insolvency. There is thus a clear incentive for directors to monitor and ensure at least the probity of the operation.

In determining the objectives and general strategy for the organisation, the board will take account of the full range of benefits generated by its activities. In a private firm, the board will seek to maximise the value of the financial return that can be returned to the shareholders. In a non-profit the purpose of the organisation is to make the best use of the resources available in order to deliver the organisation's mission. Of course, there may well be financial returns from some of the organisation's activities, but these will be directed towards the further enhancement of its primary goal. Thus the organisation has the capacity to use its resources in generating financial returns and to act entrepreneurially where this has the potential advance its mission. Generally, the closer is the organisation's mission to government policy the more likely is the organisation to maximise the

social value of the assets under its control. In this way, appropriately designed institutions offer an alternative to public policy implemented through the use of economic valuation and incentives provided to private firms.

In the case of the governance of a forest that has the potential to generate a range of ecosystem services with public good characteristics, a guiding principle will be to seek a residual claimant whose valuation of the non-market outputs is most similar to the social value. This effectively internalises the externalities and will establish incentives for their cost-effective provision. The residual claimant may then choose to contract out certain operations, such as harvesting, if they can be performed more cost-effectively by another organisation, or work in partnership if that offers potential advantages, such as in providing recreation facilities that depend on the way in which the forest is being managed.

The identity of the residual claimant in the governance arrangement proposed by the Independent Panel on Forestry may need to be clarified. The proposed arrangement (Independent Panel on Forestry, 2012, Figure 12) sets the Guardians, an Independent Board of Trustees, to operate under a Charter for the English Public Forest Estate, under the UK Parliament. The management is undertaken by an English forest management organisation. Presumably in this, the Guardians represent the residual claimant, in which case they will need to have the sort of immediate involvement in management that a Board of Directors could be expected to have over a public limited company. Otherwise the ultimate responsibility for management might be accepted neither by the forest management organisation nor by the Guardians. The creation of distance between the forest management and the sponsoring government department (currently the Department of Environment Food and Rural Affairs) that will still be expected to provide funding may act to weaken the commitment that government feels for the promotion of forestry. This may already be signalled in the Government's response to the Independent Panel's report when it comments that it expects

over time that the forest management can become more financially independent. The government comments “We will give it greater freedom to achieve a sustainable financial position and manage its resources to best effect within a clear long-term remit to maintain and enhance the land, trees and other assets under its care. The Government will support the new body to the level required to secure its long-term success, but has a clear expectation that it should become as financially self-sustaining as possible over time” (DEFRA, 2013 pp. 26-7). A government committed to reducing public expenditure may see this as offering a rationale for cutting back.

There is an issue here too about the direction of management of the PFE in the longer term, notwithstanding the requirement for the Guardians to look after the estates for future generations. The priorities for forest management have changed fundamentally more than once in the history of the Forestry Commission and there are no reasons why they should not change again. The maintenance of public ownership and oversight retains the capacity for similar changes into the future, well beyond the immediate interests of the current generation. This applies not just to the immediate outputs of the forest management organisations, but also to the continuing appropriateness of the governance arrangements under different circumstances in the future.

The closeness of the Board to direct political control will depend on whether the estate may be seen to be better managed by ‘political’ as opposed to ‘stakeholder’ interests. This question here is how such a shift of priorities would be identified and implemented. Is this a responsibility of the Guardians or would it require some amendment of the Charter, presumably by Parliament? The challenge will be when demands for a change of direction reflect political pressures outwith the remit identified by the Charter that the Guardians may see as inappropriate. This would presumably have to be resolved through the government persuading Parliament to alter the Charter or else to change the composition of the Board of Guardians.

There is a further question as to whether a national body can be effectively responsive to localised preferences and contexts. This follows from the failure to explore the possibility for institutional diversity across different local forests. We may identify four potential archetypal governance arrangements that could suite different forestry contexts (Hodge and Adams, 2013a): commercial forests, forests of major conservation value, local community woodlands, and forests of scientific importance facing uncertainty and irreversibility. But the potential for a diversity of options was apparently not explored in detail by the Independent Forestry Panel. Nevertheless there may be an argument for some hierarchy in the governance arrangements, perhaps establishing regional boards with responsibility of oversight and guidance at a regional level. There may be potential gains to be had through co-ordination of the management of forests at some spatial scale with regard to recreation provision, biodiversity conservation or timber supply. But here too, there will be a balance between the increased level of transactions costs and the marginal increase in the value of the benefits obtained by more complex governance arrangements. But this takes us back to what we see as the missed opportunity to craft governance arrangements more specifically to differing local circumstances.

In the context of LCAs, the identity of the residual claimant will depend on the formal arrangements for the control of the land in the area. This will usually remain with the individual landholders and so the partnership will have to work with the divergent interests and incentives of the separate partners. This is the model adopted by most LCAs, which are based on more or less of informal working relationships, often between partners of very different kinds and capacities. The main exceptions to this are projects brought together in applying for specific funds (e.g. the Clyde Valley Partnership in Lanarkshire, discussed above, which is funded by the Heritage Lottery Fund). An alternative approach is for partners to establish a new body jointly. This effectively pools the property rights and creates a new, independent residual claimant. This latter arrangement will offer a considerably more secure prospect for the long term sustainability of the initiative, provided that it

has adequate resources to cover the necessary costs. However, it will also require a high degree of commitment on the parts of the individual partners to be willing to give up control and assets in this way. In the short term, funding (or hopes of funding) can bring diverse partners together, but it remains to be seen under what circumstances such arrangements can outlast single project cycles. In practice though most partnerships operate on informal arrangements and few have established formal institutional arrangements.

5.3 Establishment of public trust

An important item on an agenda for the discussion of appropriate institutions for conservation land management is the question of how oversight is given to ensure that the duties and responsibilities of ownership are adhered to. This applies whether land resources are held publicly or privately, or in some hybrid arrangement. Transfer of public assets to private interests clearly raises the issue as to how the public interest in the management of those assets should be maintained. But the parallel concern for the willingness of governments to engage in long term conservation leaves the same question for assets in government ownership, as concluded by the Independent Panel on Forestry. And the introduction of regulations over private property, diminishing the power of freehold ownership doesn't avoid this element. Rights in land are not necessarily extinguished when they are removed from private owners. Rather they may be seen as being transferred to the state which then has a duty of enforcement.

The principle of the Public Trust Doctrine is much debated in United States law. The precise origins of the doctrine are obscure, some argue that it goes back to Roman law, more immediately that it has been inherited from English common law (Blumm, 2010). The Public Trust Doctrine asserts that certain resources are held for public benefit and that the government has a duty to protect them for public use. One interpretation is that the Doctrine divides property into two distinct estates *res*

publicum and *res privatum*. Some rights can be transferred and held privately, but others remain in the public realm for public benefit (Blumm, 2010 a). The Doctrine has been upheld in American courts since the 19th century with regard to specific resources, particularly relating to fishing, commerce and navigation uses of water and ownership of foreshore and riparian land (Araiza, 2011-12) and its application has widened over time (Blumm, 2010b). Its adoption has varied from State to State; while some give it little prominence, the Pennsylvania Constitution, as amended in 1971, reads: "Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people".^v

It has also been argued that the principle should have a broader interpretation to the conservation of land and natural resources more generally. Sax (1970) in reviewing public trusts cases recognised that coverage had been rather narrow, However, he concluded that the same public trust protections could be equally applicable in controversies where a diffuse public interest needs protection from tightly organised groups with clear and immediate goals, such as in controversies involving air pollution, pesticides, location of rights of way, or draining wetlands. It is thus argued that the public trust doctrine can provide the basis for common law environmental regulation "structuring the relationship among natural resources, the current and future citizens who own these resources, and the governments they elect to manage them" (Turnipseed, et al., 2010 p13). More particularly, the doctrine has been argued to have potential to apply to a variety of environmental issues from the management of beaches and parklands (Keith, 2010) to guidance as to the way in which government should regulate for climate change (Peloso and Caldwell, 2011). Similar arguments are also made at a global scale with regard to international law asserting that sovereign rights of nation states are limited by a parallel transnational duty for environmental stewardship as embodied for instance in the World Heritage Convention (Sand, 2004).

There is a clear sense of this public trusteeship inherent in the recommendations of the Independent Panel on Forestry (2012) for the trusteeship of a Board of 'Guardians' who are accountable directly to Parliament. This type of arrangement might be argued to create a somewhat different type of property, neither quite private nor public as commonly understood, where the state retains some residual legal interest that provides for the public good. This thus echoes some interpretations of Public Trust Doctrine in the United States. The Board will include representation from the major stakeholders, in effect acting as the representatives of the settlers of the trust who have contributed the land of the estate to the trust. Stakeholders would particularly represent those groups benefiting from the non-market benefits as these are likely to outweigh the market benefits. The Board would also represent the interests of future generations and wider environmental and social interests. The Board would act to guarantee that the PFE meets national and international environmental commitments, achieves high management standards and maintains public accountability requirements. If this is deemed not to be possible within available resources it would need either to make the case for extra funds from government or else to adjust the management or objectives of the forest activities. This could clearly be a source of tension between the Guardians and the sponsoring government department.

A parallel question arises in the context of the LCAs as to what general oversight should be implemented over the activities of the landholders. While general government oversight is important, for example in terms of meeting national Biodiversity Action Plan targets, the key issue here is more likely to relate to the role of government in supporting and sustaining landholders' activities and this will rely substantially on the availability of consistent public funding. At present, there is a substantial reliance on access to funds made available through European agri-environment mechanisms. But these are not primarily designed for the support of these types of initiative and their availability is subject to conditions required in the Rural Development Programme and to

future decisions as to the reforms of the CAP, that cannot be relied on to maintain the same level of provision into the future (Hodge and Adams, 2013b).

This also raises a question as to the role of the state in support of conservation values across private land more widely. A possible general application to private property raises a variety of difficult questions, such as who has standing to take enforcement action or who defines the public interest in balancing public and private interests? A comparison may be made with the recent changes to development decisions in statutory land use planning where, under the new National Planning Policy Framework (Department for Communities and Local Government, 2012) the criterion for decisions on planning applications will be the promotion of sustainable development. It may be expected that this will lead to legal challenge as to how this abstract concept may be interpreted within the context of particular development proposals. It is of course, one thing to propose that Parliamentary oversight may be developed from an initial starting point where the land is already in public ownership, but quite another to argue that this offers a model for a stronger role for the public interest on private property generally. It may, though, offer an area for further consideration and debate. Property is not a static concept; it evolves and develops in response to changing social and economic conditions. But this takes us beyond the scope of this paper (e.g. Freyfogle, 2010).

6. Conclusions

Neoliberalism has been a powerful force transforming governance of rural resources in many countries, and certainly in the UK. Neoliberalism undoubtedly presents new risks and challenges to the maintenance of public interests in the countryside, especially in times of recession and fiscal shortfall. It may also, however, offer new opportunities and open up the possibility of novel institutional arrangements for the realization of public goals in a substantially private landscape. In this paper we have explored institutional arrangements for achieving public outcomes in forestry

and conservation. Neoliberal approaches enable novel institutional forms that can give non-profit and public bodies new ways of influencing private land uses.

New mechanisms, such as conservation covenants, blending property rights across different ownerships, have the potential to support conservation objectives by extending the reach of conservation organisations in order to co-ordinate land use and management at a larger scale.

Alternative residual claimants have different objectives. Where they hold objectives that are close to the policy objectives of government, this effectively internalises external costs and benefits and sets incentives for cost-effective delivery of public goods. More information is needed about the experience of the operation of conservation owners and collective organisations in practice in terms of the organisational approaches adopted, objectives selected and decision-making processes.

Under public or private ownership there remains a role for public oversight of land uses and conservation in order to promote and secure wider public interests. The arrangements proposed for oversight over the Public Forest Estate may be seen as introducing a novel form of property not private and not held by government. It will be important to assess the development of this approach and its potential relevance in other contexts. This question has parallels with the debates in the United States over the Public Trust Doctrine and raises more general questions as to the state's responsibility for oversight of private land management more generally. The public interest in LCAs will also depend on a sustainable institutional governance and source of funding. While funds will be unlikely to be fully provided by government, government will need to promote institutional arrangements that support access to stable sources of funds without unreasonable transactions costs. It is clear that considerable institutional diversity and potential exists, particularly through the work of conservation trusts – perhaps more than some commentators would see under the influence of neoliberalism. This also requires the active engagement of government in a variety of ways

However, these observations raise a number of questions. First, there is clearly a need for grounded case studies of the institutional frameworks of projects that seek to combine landowners and other actors within a specified area to promote shared outcomes in terms of land. The devil, as ever, is likely to reside in the details. Second, there are questions about the acceptability of these kinds of institutional arrangements to wider society. A number of large conservation areas have been launched on a flood of local goodwill, just as the attempt to sell off government forests was opposed by a rising tide of web-based democratic energy. However, controls on land usage have the potential to affect rural people and communities, and those in cities, in many ways. There is the potential for losers as well as winners from innovative large scale management of land for nature or forestry. Keeping the enthusiasm of early supporters is important. There is a clear research need to understand what conditions favour creation of the social and financial capital that can enable initiatives to endure. Third, the sustainability of different institutional arrangements remains to be proven. How can public interests be secured in an uncertain economic future? Governments can sell off holdings, and quasi-private owners can become bankrupt.

There is thus much to be done to make use of the institutional opportunities that have been opened up through the neoliberal approach. This will require a more active state in collaboration with non-profit and other private interests to explore a post-neoliberal agenda.

References

- Adams, W.M., 2012. Private and networked: large conservation areas in Scotland. *Ecos* 33 (3/4), 124-133.
- Adams, W.M., Hodge, I.D., Sandbrook, L., 2013. New Spaces for Nature: the re-territorialization of biodiversity conservation under neoliberalism in the UK, unpublished paper.

- Araiza, W., 2011-12. The Public Trust Doctrine as an interpretive canon. *University of California Davis Law Review* 45, 693-740.
- Blumm, M., 2010a. The Public Trust Doctrine and Private Property: The accommodation principle. *Pace Environmental Law Review* 27 (3), 649-667.
- Blumm, M., 2010b. The public trust doctrine – A twenty-first century concept. *Hastings West Northwest Journal of Environmental Law and Policy* 16 (1), 105-110.
- Büscher, B., Sullivan, S., Neves, K., Igoe, J., Brockington, D., 2012. Towards a synthesized critique of neoliberal conservation. *Capitalism, Nature, Socialism* 23(2), 4-30.
- Castree, N., 2008. Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A* 40, 131-152.
- Cole, D.H., 2002. *Pollution and property*. Cambridge University Press, Cambridge.
- Cumbers, A., 2011. *Reclaiming Public Ownership: making space for economic diversity*. Zed Books. London and New York.
- Defra, 2010. *The future of the Public Forest Estate in England. A Public Consultation*. Department for Environment, Food and Rural Affairs and Forestry Commission, London.
- Defra, 2011. *The Natural Choice: securing the value of nature* Natural Environment White Paper, www.defra.gov.uk/environment/natural/whitepaper/.
- Defra, 2013. *Government forestry and woodlands policy statement incorporating the Government's response to the Independent Panel on Forestry's Final Report*. Department for Environment, Food and Rural Affairs, London.
- Demsetz, H., 1967. Toward a theory of property rights. *American Economic Review* 57 (2), 347-359.
- Department of Communities and Local Government, 2012. *National Planning Policy Framework*. CLG, London.
- Elliott, L., Adams, W.M., Hodge, I.D., 2011. *Survey of largescale conservation areas*. Unpublished report, Department of Geography, University of Cambridge.

- Ellis, S., Bourn, N. A. D., Bulman, C., 2012. Landscape-scale Conservation for Butterflies and Moths: lessons from the UK, Butterfly Conservation, Wareham, Dorset
- Enjolras, B., 2009. A governance-structure approach to voluntary organizations. *Nonprofit and Voluntary Sector Quarterly* 38 (5), 761-783.
- Everard, M., 2011. *Common Ground. The sharing of land and landscapes for sustainability.* Zed Books. London and New York.
- Fama, E., Jensen, M., 1983a. Separation of ownership and control. *Journal of Law and Economics* 26 (2), 301-325.
- Fama, E., Jensen, M., 1983b. Agency problems and residual claims. *Journal of Law and Economics* 26 (2), 327-349.
- Freyfogle, E. 2010. Property and liberty. *Harvard Environmental Law Review* 31, 75-118.
- Forestry Commission, 2011. *Corporate Plan 2011-15.* Forestry Commission England, Bristol.
- Franks, J., Emery, S., 2013. Incentivising collaborative conservation: Lessons from existing Environmental Stewardship Scheme options. *Land Use Policy* 30, 847-862.
- Gray, K., 2010. Pedestrian democracy and the geography of hope. *Journal of Human Rights and the Environment* 1(1), 45-65.
- Harvey, D., 2005. *A Brief History of Neoliberalism.* Oxford University Press, Oxford.
- Hodge, Ian, 2001. Beyond agri-environmental policy: towards an alternative model of rural environmental governance. *Land Use Policy* 18, 99-111.
- Hodge, Ian, 2013. European agri-environmental policy: the conservation and re-creation of cultural landscapes. Chapter in Joshua M. Duke and JunJie Wu (eds.) *The Handbook of Land Economics*, Oxford University Press, New York (forthcoming).
- Hodge, I.D., Adams, W.M., 2012. Neoliberalisation, rural land trusts and institutional blending. *Geoforum* 43 (3), 472-482
- Hodge, I.D., Adams, W.M., 2013a. The future of public forests: An institutional blending approach to forest governance in England. *Journal of Rural Studies*, 31, 23-35.

- Hodge, I., Adams, W., 2013b. The role of agri-environment measures in promoting co-ordinated land management in large conservation areas. Paper for the 14th Global conference of the International Association for the Study of Commons, Kita-Fuji, Japan.
- Independent Panel on Forestry, 2012. Final Report. www.defra.gov.uk/forestrypanel
- Kay, J., Thompson, D., 1986. Privatisation: A Policy in Search of a Rationale. *Economic Journal* 96, 19-32.
- Keith, M., 2010. Judicial protection for beaches and parks: The Public Trust above the high water mark. *Hastings West Northwest Journal of Environmental Law and Policy* 16 (1) 165-191.
- Kikeri, S., Nellis, J., 2004. An assessment of privatization. *The World Bank Research Observer* 19 (1), 87-118.
- Kosoy, N., Corbera, E., 2010. Payments for ecosystem services as commodity fetishism. *Ecological Economics* 69(6), 1222–1236
- Law Commission, 2013. Conservation Covenants. A Consultation Paper. Consultation Paper No. 211, Law Commission, London.
- Lawton J.H., Brotherton P.N.M., Brown V.K., Elphick C., Fitter A.H., Forshaw J., Haddow R.W., Hilborne S., Leafe R.N., Mace G.M., Southgate M.P., Sutherland W.J., Tew T.E., Varley J., Wynne G.R., 2010. Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Department for Environment, Food and Rural Affairs.
- Letza, S., Smallman, C., Sun, X., 2004. Reframing privatisation: Deconstructing the myth of efficiency. *Policy Sciences* 37, 159-183.
- Lockie, S., 2013. Market instruments, ecosystem services, and property rights: Assumptions and conditions for sustained social and ecological benefits. *Land Use Policy* 31, 90-98.
- Lovett, J.A., 2011. Progressive property in action: The Land Reform (Scotland) Act 2003. *Nebraska Law Review* 89, 739-818.
- Lucy, W., Mitchell, C., 1996. Replacing private property: the case for stewardship. *Cambridge Law Journal* 55(3) 566-600.

- McCarthy, J., Prudham, S., 2004. Neoliberal nature and the nature of neoliberalism. *Geoforum* 35, 275-283.
- Macgregor, N. A., Adams, W. M., Hill, C.T., Eigenbrod, F., Osborne, P. E., 2012. Large-scale conservation in Great Britain: taking stock. *Ecos* 33 (3/4), 13-23
- MA, 2005. *Ecosystems and Human Well-Being: Current State and Trends*, Washington, DC, Island Press
- Mace, G.M., Norris, K., Fitter, A.H., 2011. Biodiversity and ecosystem services: a multilayered relationship. *Trends in Ecology and Evolution* 27, 19-26.
- Norgaard, R. 2010. Ecosystem services: From eye-opening metaphor to complexity blinder. *Ecological Economics* 69 (6), 1219-1227.
- Pascoe, S., 2012. Social obligation norm and the erosion of landownership? *The Conveyancer and Property Lawyer* 6, 489-497.
- Peck, J., Tickell, A., 2002. Neoliberalizing space. *Antipode* 34, 380-404.
- Peck, J., Theodore, N., Brenner, N., 2010. Postneoliberalism and its malcontents. *Antipode* 41(s1), 94-116.
- Peloso, M., Caldwell, M. 2011. Dynamic property rights. The public trust doctrine and takings in a changing climate. *Stanford Environmental Law Journal* 30 (1), 51-120.
- Rowan-Robinson, J., 2003. Reform of the law relating to access to the countryside: realising expectations? *Journal of Planning and Environment Law*, Nov, 1394-1400.
- RSPB, 2010. *Futurescapes: space for nature, land for life*. [online] Available at: <http://www.rspb.org.uk/images/futurescapesuk_tcm9-253866.pdf>
- Sagoff, M., 1988. *The Economy of the Earth*. Cambridge University Press, Cambridge.
- Sand, P., 2004. Sovereignty bounded: Public trusteeship for common pool resources? *Global Environmental Politics* 4 (1), 47-71.

- Sandberg, L.A., Wekerle, G.R., 2010. Reaping nature's dividends: The neoliberalization and gentrification of nature on the Oak Ridges Moraine. *Journal of Environmental Policy and Planning* 12 (1), 41-57.
- Sax, J. 1970. The public trust doctrine in natural resource law: Effective judicial intervention. *Michigan Law Review* 68 (3) 471-566.
- Sen, A., 1977. Rational fools. *Journal of Philosophy and Public Affairs* 6 (4), 317-344.
- Smith, A. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Volume II. W. Strahan and Cadell, London.
- Spash, C. and Hanley, N., 1995. Preferences, information and biodiversity preservation. *Ecological Economics* 12, 191-208.
- Speckbacher, G., 2008. Nonprofit versus corporate governance: An economic approach. *Nonprofit Management and Leadership* 18 (3) 295-320.
- The Woodland Trust, 2002. *Space for Nature: landscape-scale action for woodland biodiversity*, woodland Trust, Grantham.
- Thompson, F.M.L., 1963. *English Landed Society in the Nineteenth Century*. Routledge and Kegan Paul, London.
- Turnipseed, M. et al., 2010. Reinvigorating the Public Trust Doctrine. *Environment* 52 (5), 6-14.
- UK NEA, 2011. *The UK National Ecosystem Assessment: Technical Report*. Cambridge, UNEP-WCMC.
- Vatn, A., 2005. Rationality, institutions and environmental policy. *Ecological Economics* 55, 203-217.
- Vickers, J., Yarrow. G., 1991. Economic perspectives on privatization. *Journal of Economic Perspectives* 5(2), 111-132.
- Wildlife Trusts, 2011. *The Wildlife Trusts: A Living Landscape* [online] Available at: <<http://www.wildlifetrusts.org/aliveinglandscape>>

Table 1: Key factors influencing appropriate governance arrangements

Balance between private and public goods	Where outputs are primarily sold in a market, organisational structure should promote efficient production, regulated to maintain public good aspects; where public goods dominate their value should motivate residual claimant through stakeholder or membership influence
Public appreciation of outputs (direct use or recognition)	Public goods with high public recognition and appreciation provide basis for non-profit provision, mission and crowding in
Contractability: definition and measurability of public good	Easily defined and measured outputs may be produced through competitive public procurement and contracting from private firms
Scale at which goods are recognised and whether or not scale economies in provision	Public goods of national or international significance will require effective organisations to minimise risk of failure. Local public goods may be better provided by local organisations responsive to local priorities
Acceptability of commodification	There may be strong public views that some particular benefits should not be produced and allocated through a market (e.g. public access to some areas)
Uncertainty and dynamics relating to complexity of management requirements	Production will require adaptive management and research support, likely only to be available to government or large NGO

ⁱ See details at: <http://www.outdooraccess-scotland.com/> (last accessed 6-12-12)

ⁱⁱ Damien Carrington (2011) huge majority oppose England Forest sell-off, poll finds', *Guardian* 22 January 2011 06.00 GMT.

ⁱⁱⁱ <http://www.38degrees.org.uk/page/s/save-our-forests> (last accessed 7 May 2013)

^{iv} Comments made by Jim Paice. Answer to the House of Lords Select Committee on the European Union, Agriculture, Fisheries and Environment Sub-Committee on 24th November 2010

^v http://sites.state.pa.us/PA_Constitution.html (last accessed 21 March 2013)