

# **RE-CONNECTING LANDSCAPE: ROLES FOR SPATIAL PLANNING**

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## **Abstract**

The thesis sets out the candidate's contribution to the field of landscape planning in relation to themes such as sustainability, multifunctionality and resilience. It contextualises the candidate's work in terms of the literature linking spatial planning, natural resource management and sustainable development, and shows how these have, most recently, led to a concern for 're-connection'. It then considers more specifically the influence of ten published outputs concerning interventions on behalf of the cultural landscape. Substantially, the candidate's contribution is viewed as a way of 'designing with nature', within the legacy of Ian McHarg.

The first part of the thesis explains how the candidate contributed broadly to a gradual acceptance of natural resource management as a legitimate concern for spatial planning, and how this was subsequently re-interpreted within a discourse of sustainable development.

A set of ten published outputs is then critically reviewed in terms of: a synoptic overview; a contribution to the theory of landscape planning; an exploration of aspects of practical implementation; and a consideration of future prospects for promoting social-environmental resilience through the medium of multifunctional landscape.

The thesis concludes by anticipating further development of the themes of multifunctionality, sustainability, resilience and re-connection within a 'Neo-McHargian' context.

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## CHAPTER 1: INTRODUCTION

### 1.1 Background to the Thesis

This thesis provides a critical reflection on the candidate's contribution to landscape planning. The main focus is on selected publications between 2004 and 2012. However, this selection is prefaced with a commentary on the longer evolution of the candidate's interests and research outputs.

The field of landscape planning is now well established, and has been given a high degree of international respectability through the European Landscape Convention (ELC) (Council of Europe (CoE), 2000). Landscape is now widely acknowledged as a multifunctional phenomenon delivering a range of ecosystem services (Brandt and Vejre, 2004; Stockdale and Barker, 2009). This has not always been the case.

In 1973, when the candidate was a postgraduate planning student at Heriot-Watt University and recent graduate of Environmental Sciences, it was not at all clear how planning practice could contribute to the wise management of natural resources. Apart from the very occasional article on safeguarding special landscape or prime agricultural land, the planning literature was largely silent on how the profession might respond to the post-*Silent Spring* (Carson, 1962) environmental agenda.

One notable exception was *Design With Nature* (McHarg, 1969, 1995), a text which, for the candidate, proved transformative. In no small part, this thesis is intended as a tribute to McHarg and aspires to encapsulate a 'Neo-McHargian' approach to landscape planning. In the 1970s, and hence deeply influential on the candidate as a planning student and practitioner, a small number of books reaffirmed that environmental and natural resource issues were important to town planning, despite lying largely beyond its statutory remit. These texts dealt variously with the strategic management of rural and natural resources (O'Riordan, 1971), emergent methods pertaining to the interface between planning and landscape architecture (Lovejoy, 1973), countryside planning (Gilg, 1978) and the wider planning of the rural environment (Davidson and Wibberley, 1977).

Amongst other things, these texts demonstrated how ‘planning’ was a generic activity, involving several professions and policy domains, which included but was not confined to, ‘town and country planning’. Hence, at least within a partnership context, matters of rural and natural resources could be construed as legitimate matters for town planners. These pioneer texts also emphasised the growing need to take an integrated and horizontal view of natural resource issues, rather than the sectoral and vertical ‘silo’ approach that largely prevailed at that time.

The planning profession, even though it could not control many rural land use changes, could make a significant contribution to integrated decision-making through practices such as indicative planning and rural resource evaluation. However, in the 1970s spatial planning had not yet been influenced by two embryonic agendas – landscape ecology and sustainable development. Although slowly growing in importance, landscape ecology did not really gain respectability until the establishment of the International Association for Landscape Ecology in 1982, whilst sustainable development only started to be mainstreamed into policy discourses following the *World Conservation Strategy* (IUCN *et al*, 1980).

These evolving ideas formed the context in which the candidate gradually sought to develop a research profile in “planning for the wider landscape”, where landscape was understood as a complex multifunctional social-ecological nexus rather than mere scenery. This aspiration remained deeply influenced by McHarg’s fusion of ecological scientific knowledge and regional design. Although limited by the computing power and economic theories of his day, McHarg managed to develop a sophisticated and integrated approach to multi-dimensional landscape analysis in order to locate development opportunities in ways that respected nature’s sensitivities. Through his use of interpretive mapping, he proposed a method for exploring urban growth potential relative to the earth’s absorptive capacity. He was ahead of his time in grasping biospheric processes, non-market economic values, and relationships between metropolitan space and human wellbeing.

Equally importantly, McHarg was as dissatisfied with environmental pessimism as he was with presumptuous exploitation. His pursuit of a balanced approach contrasted with the prevailing polarisation of worldviews, subsequently characterised by



O’Riordan (1981) as technocentric and ecocentric. In essence, he was advocating what would come to be known as ‘sustainable development’.

The publications contained in this thesis have been chosen to represent the candidate’s distinctive contribution to sustainable landscape planning, the most recent ones signposting an evolving approach that might be described as *Neo-McHargian*. The key aspects of this approach are that it tends to treat landscape as: a complex system, integrating a range of natural and cultural resources; a multifunctional phenomenon, wherein functions deliver ecosystem services in a sustainable and synergistic manner; a social-ecological-epistemic system with the potential to enhance our resilience to changing circumstances; a connective medium, linking town and country, and supporting dynamic exchanges between land, airspace and groundwater; and an accessible and characterful resource supporting human health and wellbeing, and conferring distinctiveness on places.

## **1.2 The Selected Publications**

### *1.2.1 Synopsis*

The outputs included in this thesis are organised so as to emphasise the candidate’s twofold concern: on the one hand, seeking theoretical and conceptual justifications for large-scale landscape interventions; and, on the other, exploring practical delivery in a context where planning powers are constrained by a restrictive statutory definition of ‘development’. The outputs commence with a scene-setting paper which reviews how landscape theory and practice had evolved during the 20<sup>th</sup> and early 21<sup>st</sup> centuries. Following this, a suite of four papers considers some of the influences underlying the general case for ‘landscape scale’ planning, where ‘landscape scale’ may be taken to mean large scale approaches to landscape which transcend the site level, and thus encounter scientific complications of species’ spatial behaviour as well as governance challenges of crossing administrative, organisational and jurisdictional boundaries. The next set of four papers concerns implementation, particularly the challenges of effective policy delivery, given the relatively weak powers of plan production and implementation at the landscape-scale. The papers are rounded off by a publication representing the ‘trajectory’ of the candidate’s more recent work on resilient and

emergent landscapes. Although the outputs overlap significantly in their themes, an attempt has been made to organise them into ‘theory’ and ‘practice’ papers respectively.

These outputs are briefly introduced below. In subsequent sections, these outputs are referred to by a number, reflecting the order in which they appear (Table 1).

<b>Output Number</b>	<b>Title of Output</b>
1	Selman, P (2010) Landscape planning: preservation, conservation and sustainable development, Centenary Paper, <i>Town Planning Review</i> , 81(4), 382-406.
2	Selman, P and Swanwick, C (2010) On the Meaning of Natural Beauty in Landscape Legislation, <i>Landscape Research</i> , Vol. 35, No. 1, 3–26.
3	Selman, P (2010c) Learning to Love the Landscapes of Carbon-Neutrality, <i>Landscape Research</i> , Vol. 35, No. 2, 157–171
4	Dobson, S and Selman, P (2012c) Applying Historic Landscape Characterisation in Spatial Planning: from remnants to remanence, <i>Planning Practice and Research</i> , Vol. 27, No. 4, pp. 459–474
5	Selman, P and Knight, M (2006) On the nature of virtuous change in cultural landscapes: exploring sustainability through qualitative models, <i>Landscape Research</i> , 31(3), 295-308
6	Watts, K and Selman, P (2004) Forcing the pace of biodiversity action: a force field analysis of conservation effort at the landscape scale, <i>Local Environment</i> , 9(1), 5-20.
7	Selman, P., C. Carter, A. Lawrence and C. Morgan. (2010a) Re-connecting with a Recovering River through Imaginative Engagement, <i>Ecology and Society</i> , 15 (3): 18. [online] URL: <a href="http://www.ecologyandsociety.org/vol15/iss3/art18/">http://www.ecologyandsociety.org/vol15/iss3/art18/</a>
8	Selman, P (2004) Community participation in the planning and management of cultural landscapes, <i>Journal of Environmental Planning and Management</i> , 47(3), 365-392.
9	Selman, P (2012c) The European Landscape Convention – rebalancing our approach to landscape? <i>Proceedings of the Latvian Academy of Sciences, Section A</i> , 66(3), 15-26
10	Selman, P (2012b) Landscapes as integrating frameworks for human, environmental and policy processes. (In: T Plieninger and C Bieling (eds) <i>Landscape and Resilience</i> , Cambridge University Press, p27-48).

Table 1: Publications included in the thesis, together with their numerical reference

### 1.2.2 *Overview*

The selected papers commence with a scene-setting paper – Selman, P (2010) Landscape planning: preservation, conservation and sustainable development, Centenary Paper, Town Planning Review, 81(4), 382-406 – which provides an overview of the candidate’s assessment of the ways that theories and practices of landscape planning have evolved over time. It provides a framework in which the nature and contribution of the candidate’s subsequent publications can be placed.

### 1.2.3 *Papers concerning landscape planning theory*

These papers encapsulate the candidate’s exposition of landscape as a complex, integrative and connective medium. In essence, they express the candidate’s ongoing exploration into the multi-layered and multi-functional nature of landscape, wherein social, economic, ecological and physical systems combine. The patterns and processes of landscape often emerge at different scales, and there are multi-scalar connections between them, often producing synergies in a serendipitous fashion (Garmestani *et al.*, 2009). Thus, much of landscape, contrary to popular supposition, is not ‘scenery’ but lies ‘beyond the view’ (Natural England, 2006).

Notwithstanding the above observation, ‘the view’ remains highly important, and is often diagnostic of individual landscapes and their cherished values. The aesthetic is a most important quality and needs to be profoundly appreciated. However, even here, there is much that is dynamic and unseen. What we perceive as ‘beautiful’ changes over time and may be influenced by society’s norms and needs. Equally, perceptions of landscape beauty may be influenced by our intuitive awareness of underlying ecological health or particular historical associations. Perception may vary in accordance with our relative ‘insider’ or ‘outsider’ status. Consequently, aesthetics have a peculiarly important role in relation to the range of ecosystem services provided by landscape.

The first paper in this section – Selman, P and Swanwick, C (2010) On the Meaning of Natural Beauty in Landscape Legislation. Landscape Research, Vol. 35, No. 1, 3-26 – examines how the term ‘natural beauty’ has been understood in relation to (mainly British) landscapes, and how it has been enshrined in legislation and therefore

interpreted in policy. It shows how, progressively, new and more sophisticated concepts have informed what we consider to be beautiful.

The next paper – Selman, P (2010c) Learning to Love the Landscapes of Carbon-Neutrality, *Landscape Research*, Vol. 35, No. 2, 157-171 – arose from a speculation on how we might perceive landscape change brought about by new energy technologies. Although it has a specific focus, it raises broader questions about the ways in which tastes, informed through social learning, might gradually adapt to actions that are perceived to underpin sustainability.

Some of the candidate's most influential ideas have been developed in books (Selman, 2006, 2012a), particularly those associated with notions of landscape multivalence, multivocality and connectivity. Some of these ideas are visited in the subsequent paper – Dobson, S and Selman, P (2012c) Applying Historic Landscape Characterisation in Spatial Planning: from remnants to remanence, *Planning Practice and Research*, Vol. 27, No. 4, pp. 459-474 – which centres on how we might move from an obsession with local manifestations of material culture to a more general engagement with character and distinctiveness.

The final entry in this section – Selman, P and Knight, M (2006) On the nature of virtuous change in cultural landscapes: exploring sustainability through qualitative models, *Landscape Research*, 31(3), 295-308 – represents the candidate's first substantive attempt to give expression to 'landscape as an integrating framework', emphasising how systems inter-connect in visible and invisible ways.

#### *1.2.4 Papers concerning landscape planning implementation*

This set of papers reflects the candidate's enduring concern for 'getting things done'. Given the relative paucity of planning duties to prepare landscape strategies and powers to implement these, it is important that especial consideration is given to the suite of measures that can be brigaded to secure favourable change. In brief, the candidate's argument is that a suite of statutory, quasi-statutory and non-statutory powers can be enrolled flexibly and imaginatively in the context of area-based partnerships. This has been distilled in the 'Gilg-Selman' spectrum (Figure 1), a revision of the candidate's initial proposition (Selman, 1998c) by the geographer Andrew Gilg (1996).



Figure 1: The principal elements of the ‘Gilg-Selman Spectrum’ of planning powers for large-scale landscape interventions

The first paper in this suite – Watts, K and Selman, P (2004) Forcing the pace of biodiversity action: a force field analysis of conservation effort at the landscape scale, *Local Environment*, 9(1), 5-20 – applies ‘barrier theory’ to farm-based conservation measures, and looks at the approaches that can be used to overcome obstacles and effect desirable landscape change.

Progressively, the candidate has developed a concern for social learning as a means of cultivating an adaptive society, equipped to make better informed decisions in the context of sustainability and resilience. Recently this has been paralleled by the extension of resilience theory from ‘social-ecological systems’ to ‘social-ecological-epistemic’ systems (McCarthy *et al*, 2011). One paper – Selman, P., Carter, C, Lawrence, A. and Morgan, C. (2010a) Re-connecting with a Recovering River through Imaginative Engagement, *Ecology and Society*, 15 (3): 18[online] – has been selected to exemplify the candidate’s interest in the role and nature of social learning in a landscape context.

This is followed by a paper examining a range of approaches to the implementation of local-scale landscape conservation and enhancement – Selman, P (2004) Community participation in the planning and management of cultural landscapes, *Journal of Environmental Planning and Management*, 47(3), 365-392. This article affirms the inventiveness of community based organisations in achieving results through a flexible suite of multiple measures.

The final output in this section – Selman, P (2012c) The European Landscape Convention – rebalancing our approach to landscape? *Proceedings of the Latvian Academy of Sciences, Section A*, 66(3), 15-26 – has been chosen to illustrate the candidate’s work associated with the European Landscape Convention (ELC). The

ELC is perhaps the most important landscape policy document so far produced, and the paper considers how it might lead to significant changes in effective action at national and supranational levels.

#### *1.2.5 A Future Trajectory*

The outputs in this thesis are concluded by an invited keynote chapter that synthesises the candidate's overarching ideas relating to modern landscape planning – Selman, P (2012b) Landscapes as integrating frameworks for human, environmental and policy processes (In: T Plieninger and C Bieling (eds) Landscape and Resilience, Cambridge University Press, p27-48). In particular, it shows how interest is now starting to converge on cultural landscape as social-ecological systems, recognising their role in contributing to society's future resilience. It represents an 'end point' at the time of writing the thesis, and the destination towards which the preceding papers were converging. Equally, though, it is a starting point for new ways of pursuing 'future landscape'.

### **1.3 Aims and Objectives**

The aims and objectives of the thesis are

#### *Aims*

- To demonstrate a significant and innovative contribution to the field of landscape planning;
- To demonstrate how the candidate's recent work has helped to shape contemporary ideas about planning multifunctional landscapes.

#### *Objectives*

- To consider the candidate's contribution to our understanding of spatial planning in shaping the future landscape;
- To reflect on the candidate's contribution to the development of landscape planning concepts;
- To reflect on the candidate's contribution to understanding planning practice for implementing 'landscape scale' interventions.

## **CHAPTER 2: BACKGROUND AND METHODOLOGY**

### **2.1 The Landscape Planning Context**

This section considers the wider academic context to the candidate's evolving work, complemented by a reflection on its contribution to landscape planning. The citations in this section are thus organised into two reference lists at the end of the thesis – (1) a list of publications from the wider literature, and (2) a separate list of the candidate's relevant publications. The latter are invoked in order to explain how the candidate arrived at a concern for connective and resilient landscape, after a lengthy exploration of links between natural resources and town planning.

In the early 1970s, two key attitudes towards the environment prevailed. One was a technocentric view, confident that the scientific ingenuity that had landed men on the moon could also enable a spiralling world population to thrive and prosper. The other was an ecocentric view, foregrounded by the Stockholm Conference 1972 (Ward and Dubois, 1972), that unless population growth and reckless economic exploitation were radically curtailed, humankind would suffer catastrophic collapse. Given the strength of polarised views about environmental issues, the relative silence of the planning profession at that time might seem surprising. In the early 1970s, planning was pre-occupied with the realities of local government reform and a newly introduced two-tier development plan system, as well as dealing with pressing housing and transport issues. Much of the new environmental agenda involved issues that lay outside the tightly defined purview of 'development' as defined by town planning legislature.

At that time, the planning agenda was predominantly urban, concerned with the expansion, containment and regeneration of cities, and the management of their associated transport systems and economies. There were niche interests in national parks (although these had not yet been designated in Scotland), outdoor recreation and the protection of green belts and prime farmland. Beyond these enclaves, there was little recognition that planners might have a significant role in natural resources and environmental management.

As previously noted, this mindset was being challenged by a small but influential literature that advocated a wider role for rural and environmental planning. Over the next four decades, a paradigm shift occurred. Not only did issues of environment,

sustainability and ecosystem services come to be viewed as legitimate; they increasingly entered into the mainstream of spatial planning. The candidate contributed to this shift, particularly in terms of seeing the landscape as an integrative medium which could be planned ‘through’, rather than an object to be planned ‘for’. Partly as a result of the candidate’s contribution, landscape planning is now understood as being about: dynamism in land use rather than anti-change; the everyday and the urban, rather than just the elite and the rural; necessary for sustainability rather than an optional luxury; and emergent landscapes as well as inherited ones.

During the 1970s, planners’ interest in rural and natural resources expanded from the narrow focus on village planning to include a broader concern for wise use of natural resources. On the one hand, techniques of rural resource evaluation (Dearden and Rosenblood, 1980) were being devised in order to enable wildlife, landscape, forestry and other resources to be weighed against the well-established planning concern of agricultural land quality. Methods were being developed to enable these evaluations to be used interpretively, in ways that echoed McHarg’s ‘overlay’ method (Statham, 1972). In a complementary manner, the hallmark of the planning profession – its ‘horizontal’ approach to decision-making, entailing the synthesis of knowledge and action through eclectic cross-disciplinary and inter-departmental practices that weigh the relative claims of competing land uses – became applied to wider environmental and resource issues. Thus, the administrative and governmental shortcomings inherent in dealing with sustainability issues on a vertical, sectoral basis gave way to joined-up, cross-organisational approaches in which planners often played an important role (Green, 1996).

During the early stages of the new environmental agenda, the popular view was that environment and growth were in fundamental opposition; there was a simple choice between ‘small is beautiful’ (Schumacher, 1973) and ‘small is stupid’ (subsequently encapsulated by Beckerman, 1995). However, concepts and methods were emerging which exposed this as a false dichotomy. Finding its clearest exposition in the World Conservation Strategy (IUCN *et al*, 1980), the concept of sustainable development rose to prominence as a widely endorsed basis for smart growth which satisfied both environmental and socio-economic criteria. Further, environmental impact assessment, which had been enshrined in US Federal Law in 1970, was emerging internationally as the favoured method for protecting natural resources and mitigating the excesses of



insensitive development. It is significant to the current thesis that, when mandatory Environmental Statements for certain categories of development were introduced by the EU in 1985, this created the first reference to ‘landscape’ in UK statute (three years later), and also covered certain types of land use change (e.g. in relation to agriculture, forestry and water) that lay outside planning control.

By the 1990s, the environmental agenda was being strongly influenced by the dogma of sustainable development, which had been mainstreamed into science, policy and practice by the Rio Earth Summit (UNCED, 1992). This new mindset was to influence landscape planning in a number of ways. First, protected landscapes started to be seen not just as objects worthy of conservation but also as exemplars where sustainable land use approaches could be demonstrated for wider dissemination (MacEwen and MacEwen, 1987). Second, the drivers of new landscapes, such as farming and forestry, came under increasing policy pressure to show that they were being conducted in wise and sympathetic ways (Ilbery, 1992). Third, ‘landscape-scale’ approaches were becoming popular as ways of pursuing other sustainable development goals, such as biodiversity conservation, climate change mitigation and water management (Farina, 2006). Fourth, it became clear that ‘cultural’ landscapes could not evolve sympathetically unless there was a strong engagement by communities and stakeholders – a topic which was becoming increasingly central to sustainable development (Phillips, 2005). Finally, methods started to be developed to address the widespread loss of character associated with local and non-local change drivers (Bishop and Phillips, 2004).

Latterly, there has been an emphasis on ecosystem services as a way of identifying, valuing and sustaining the predominantly ‘free’ benefits which the environment supplies to humans (MEA, 2005; UKNEA, 2011). There is a close association between ecosystem services and sustainable landscapes, since various services emanate from landscape scale processes. The close association between ecosystem services and landscape functions has led to a concern for ‘multifunctionality’ in landscapes (Grott *et al*, 2009; Ling *et al*, 2007; Termorshuizen and Opdam, 2009).

Much of the candidate’s work can be related to what might loosely be called ‘sustainable landscape’, a diffuse concept which can nonetheless be clarified in relation to environmental, economic, visual, social and policy criteria (Selman, 2008). Thus,

environmental sustainability at the landscape scale may be related to the promotion of joined-up biodiversity across fragmented land management units (Watts and Selman, 2004). Further, economic sustainability requires embedding virtuous circles, in which local economic and community activity sustain and create valued landscape, and the landscape in turn supports sustainable economic growth and community vibrancy (Selman, 2007). Moreover, uniquely in relation to landscape, sustainability requires a consideration of visual qualities, reflecting how aesthetics are intrinsically important to human quality of life as well as indirectly indicative of 'ecological health' (Carlson, 2007). Also, sustainability requires the active engagement of stakeholders in solutions. In addition to the various current means of incorporating society's views into landscape decisions, the landscape also offers cogent settings for social learning in real-world contexts where the effects of environmental chance can be vividly encountered and imagined (Selman *et al*, 2010). Finally, political sustainability of landscapes requires that mainstream policy and governance are supportive of the conservation and emergence of sustainable, multifunctional landscapes. Sympathetic policies are those which orchestrate a range of public, private and third sector activities, so that desired landscapes are not chronically taxpayer dependent.

Another strong influence on landscape planning has come from ecological science (Lovell and Johnston, 2009). This has manifested itself in two main ways.

On the one hand, many ecologists have turned their gaze to the wider landscape, as it is at this scale where processes and patterns can be understood in ways that facilitate the conservation and re-creation of whole ecosystems. It has long been recognised that wildlife will not prosper if conservation policy focuses on corralling it into protected enclaves. Hence, landscape ecologists have promoted the design and implementation of ecological networks (Jongman and Pungetti, 2004; Jongman *et al*, 2004).

On the other hand, and more controversially, some ecologists have argued that wildlife can only be effectively managed if it is understood as part of a more comprehensive social-ecological system (SES), and if the conservation manager is seen as lying within this system rather than standing outside (Walker and Salt, 2006). Resilience scientists have argued that, whilst many biodiversity resources and conservation sites appear to be relatively stable, this may be an illusion caused by lagged responses of underlying systems. Yet if sub-optimal conditions persist, a tipping point may be reached where

the system becomes ‘brittle’, and degrades into an alternative state from which it is very difficult to recover. An SES approach therefore emphasises the need to increase system resilience by seeking improvements in ‘slow variables’ (such as genetic diversity and soil development) rather than in the relatively small-scale short-term habitat interventions typically favoured by many conservation managers. As cultural landscapes are, in essence, social-ecological systems, it is hardly surprising that resilience theory is now being applied to sustainable landscape planning (Cumming, 2011).

These changes in landscape planning have been associated with much larger trends affecting rural areas. Since the 1970s, there has been a large body of research focused on the apparent shift from ‘productivist’ to ‘post-productivist’ farming and forestry (Wilson, 2001), especially in Europe and North America. This shift has widely occurred in public policy instruments, if not always in commercial practice. Its overriding significance for the current thesis has been the progressive availability of funds for farmers and foresters to retain and create landscape assets. These trends have been studied through multiple lenses, such as structure-agency relationships in the social and political economy of farming, behavioural studies of agricultural entrepreneurship, and capital modernisation. These numerous studies have yielded an enormous literature which is not explored here, but is acknowledged as a dominant ‘metanarrative’ of recent rural scholarship (Winter, 2004, 2005). Although it is not a literature to which the candidate has significantly contributed, it does provide the wider setting for the candidate’s interests, particularly in terms of the availability of implementation mechanisms for landscape policy.

## **2.2 The Candidate’s Wider Contribution: A Four Decade Journey**

Broadly speaking, the candidate has pursued three complementary strands of interest in landscape planning – *rural and natural resources planning*, *sustainable environmental management*, and *landscape ecological planning* – and latterly these have converged into a single focus on *planning for connected, resilient, multifunctional landscapes*. As a prelude to the candidate’s selected publications, these convergent strands are briefly summarised.

Nowadays, it is difficult to appreciate the earlier neglect of rural and natural resources by planners. In the UK, at the time McHarg was writing, development plans might typically have included a review of the natural environment – its scenic quality, agricultural land and exploitable minerals, and sites of archaeological and scientific interest. Other than in special areas such as national parks, the policy implications of such an analysis would have been limited. Stricter development control may have been applied in selected scenic areas, and there would have been an acknowledgement of the need to refer development applications to relevant statutory agencies if they affected special categories of land. To go beyond such policies was generally deemed inappropriate, principally because planning controls did not extend over farming and forestry, which collectively accounted for around 90% of the land surface.

In the early 1970s, therefore, the candidate's initial task was to identify a legitimate role for planners in relation to *rural and natural resources*. An initial career in local government delayed the output of publications, but a paper arising from the MA dissertation on types of nature conservation policies in the first wave of structure plans (Selman, 1976) was widely cited, being a rare reference on the involvement of planners in natural resources management. This was followed by subsequent investigations into emergent structure plan policies on various aspects of natural resources and environmental management, especially the incipient development of interpretive mapping and natural resource classification as a basis for rural land use strategy (Selman, 1977, 1978, 1981).

This research strand gained momentum in the 1980s, as planning authorities became more attuned to natural resource issues and sought to bring their influence to bear on matters of environmental concern. Planners were becoming more aware that they inherited the consequences of landscape change, even though they may not always be able to intervene directly in the processes of change.

For example, some planners recognised their role in 'indicative' planning – indicating preferred patterns of land use change outside the development control system – and in using the democratic processes of the planning committee to ensure local involvement in important matters that otherwise would be determined solely by national or private interests. This coincided with the growing UK-wide interest in steering the emergence of new agricultural landscapes. In Scotland, attention was also being directed to oil-

related activity, aquaculture, investment forestry, and winter sports developments. In this regard, the candidate published numerous papers exploring the growing contribution of spatial planning, particularly the role of evaluative techniques in promoting multiple use (Selman, 1982a,b), indicative plans for various types of countryside management (Selman, 1987a, 1990) and planning policy development for key aspects such as nature conservation, farming and forestry (Selman, 1987b, 1989; Selman and Barker, 1990). Many of these key themes were drawn together in an influential review paper (Selman, 1988c) and edited book (Selman, 1988a). In the latter, the candidate contributed a chapter on wildlife and landscape, reflecting a conviction that these two topics had been artificially separated in public policy, and anticipating the subsequent merger of these functions in national agencies.

The second strand of research centred on *sustainable environmental management*. This drew upon the emerging agenda of sustainable development, which had been coherently articulated in the World Conservation Strategy. The WCS had a modest initial impact on the planning profession, but the candidate sought to draw it to the attention of the planning profession in ways that were relevant to UK practice (Selman, 1985, 1988b). Additionally, the candidate was researching issues which fell more clearly within the purview of town and country planning, specifically environmental impact assessment and state of environment reporting (Selman, 1982c, 1986, 1994).

During the 1990s, sustainable development became increasingly central to planning practice, especially following the 1992 Earth Summit and the subsequent Local Agenda 21 process (Selman, 1995, 1996, 1997, 1998, 1999b, 2000a). As the decade wore on, it became clear that sustainability was not just an add-on to planning policy and practice, but that society would have to cross a fundamental ‘sustainability transition’, becoming less dependent on fossil carbon and enhancing its stock of natural capital. In all of this, the candidate maintained a particular concern for implementation, primarily because of the problems posed by a fragmented legislature and ‘stovepipe’ decision-making.

The interest in practical, sustainable natural resource use within a framework of spatial planning was illustrated through empirical research studies relating to planning for forestry (Selman, 1997) and biodiversity (Selman, 1987, Hawkins and Selman, 2002, Watts and Selman, 2004). A particular contribution was to the early role of GIS in assisting land use planning in relation to rural resources (Davidson *et al*, 1991, 1993).

This was paralleled by explorations of the local dimension of sustainability, emphasising the need for stronger horizontal integration between departments and agencies (Selman, 1996a, 1999a,c, 2000b).

The candidate's third main research theme, which grew in importance from the mid-1980s, was that of *landscape ecological planning*, drawing upon an emerging evidence base that in some ways supported popular claims about the value of connective landscape features such as hedgerows. The candidate was amongst the first to seek to harness the potential of landscape ecology to spatial planning. A key reason was a personal concern that rural planning was often unduly centred on preventing things happening – stopping large-scale forestry, stopping the loss of heather moorland, stopping various kinds of agricultural land improvement, stopping construction activity in areas of attractive scenery, and so forth. The countryside tended to be treated as a 'minimal change' area, functionally separate from towns and cities. Often there were compelling arguments to support conservation and protection but, by themselves, they seemed frustratingly insufficient. They also seemed locked into preserving historic cultural ruralities, often centred on the landscapes of the 18<sup>th</sup> and 19<sup>th</sup> centuries, without a corresponding attention to emergent modern landscapes.

The candidate sought to expand this agenda in two directions: first, a more positive view of rural land use change, as a basis for creating new cultural landscapes; and second, a stronger concern for 'nature' in urban areas, in ways that were functionally connected to the wider countryside. Central to this theme was the notion of 'landscape scale' – the idea that natural-cultural landscape units operate at intrinsic scales throughout the countryside, and that these units are often bisected by administrative boundaries and disrupted by development. Whilst accepting that there is no single 'landscape scale', the term has been widely applied to the use of analytical scales that transcend fragmented sites or arbitrary administrative divisions. A better understanding of 'scale effects' can help facilitate the emergence of new landscapes and the integration of metropolitan ecologies with their coterminous rural systems.

This phase comprised two main elements: a theoretical development of landscape ecological concepts and their application to substantive planning issues (Selman and Doar, 1991, 1992; Selman, 1993, 1996b,c; Hawkins and Selman, 2002); and the potential framing of planning policies based on real-world application of landscape

ecological principles such as multifunctionality and resilience (Selman, 2002, 2004b, 2009). It culminated in the articulation of ways in which planning, analyses and decisions could be based on the connections within and between large-scale landscapes. In particular, it led to the publication of two books: one explored the notions of scale, the various natural and cultural attributes associated with landscape units, and the ways that these might be influenced through spatial planning (Selman, 2006); the second queried the notion of connectivity in social-ecological systems, and critically explored evidence for the effects of disconnection and the potential for spatial planning to promote re-connection (Selman, 2012).

### **2.3 Methodological Aspects**

The selected publications contribute to our understanding of landscape planning in two ways: by the discovery of new facts and by the exercise of independent critical power<sup>1</sup>. Thus, some outputs (2, 4, 6, 7, 8 and 9 in Table 1) place an emphasis on empirical findings, whilst other outputs (1, 3, 5 and 10 in Table 1) are mainly based on independent critique.

In the first category, a mixed methods social science approach has predominated whilst, in the latter, the style has drawn more heavily on that of environmental humanities (Sörlin, 2012) which includes the critical reading of textual sources in order to explain change in its historical context.

In terms of the latter, three of the included works are critical reflections (Selman, 2012b, 2010a, b). Here, the approach has been to consider the challenges of past, present and future landscape planning as they are informed by scientific, ethical and policy considerations. The methods draw on a range of primary and secondary sources, interpreted through the lens of policy development. As an additional way of exposing these papers to external critique, all were subject to public presentation and discussion prior to completion.

Characteristically, this approach commences with a broad reading of known secondary sources. On this basis, a preliminary taxonomy of key issues is prepared. This enables a

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<sup>1</sup> Regulation 43, Paragraph 9.4.3, of the Heriot Watt University Regulations for Higher Degrees (2012), states that the thesis “shall afford evidence of originality, shown either by the discovery of new facts or by the exercise of independent critical power” (cross-referred from Regulation 7 and Paragraph 5.1).

more detailed literature search to be undertaken, including a wider range of primary sources, and informed by a more precise set of search engine keywords. A core set of journals is also systematically trawled. Inevitably, in a historic survey, many important publications are not accessible via the internet. Here, reliance must be placed on other 'alerts' such as personal recommendations and citations in other publications. A similar approach is taken to sources in the 'trade press' and grey literature. As evidence is accumulated, a 'grounded' approach (Bryant and Charmaz, 2007) is taken, progressively refining and cross-checking the essay content in the light of evidence and opinions encountered in the literature. Inevitably – and desirably – there is a significant personal dimension in the interpretation and choice of themes, but this is constantly tempered by the need to defend such views in the light of prevailing evidence, received wisdom and peer review.

In the more empirical papers, the approach is predominantly based on social science qualitative methods (supported at times by more quantitative methods such as interpretive mapping). Most of the papers use case studies (Yin, 2009), particularly those which could be considered 'critical cases', namely, the type of case which has a strategic importance in relation to the general problem, and is therefore assumed to have a degree of validity for many cases.

In turn, case study evidence has normally been obtained through semi-structured interviews with a range of stakeholders. Semi-structured interviews are particularly appropriate where – as in these studies – stakeholders are diverse in nature and role, so that a fully structured, inflexible interview or questionnaire format is unsuitable (Denscombe, 2010). However, a checklist of questions would be used to ensure as much consistency as possible.

Interviews would also be accompanied by content analysis of in-house documents, to assemble further evidence on the intentions, actions and performance of agencies.

In most cases, the papers are concerned with policy analysis, either retrospective or prospective. Policy success is typically interpreted in terms of an agency's own objectives, broader social and political expectations as expressed in literature and public statements, and perceptions of relevant stakeholders. Various more specific methods have been used to complement this general approach.



Thus, in relation to the more empirical outputs, publication 2<sup>2</sup> draws not only on ‘classic’ publications, but also on documentary records such as parliamentary papers and public inquiry reports. The paper also includes feedback from a stakeholder workshop at which draft findings were presented, as well as responses to a questionnaire. Two papers (4, 7) entail action research (Elfors and Svane, 2008), namely, a researcher working in tandem with stakeholders to explore how learning occurred when presented with innovative information about landscapes. One of these involved the interpretive mapping of landscape time-depth. Through a combination of GIS mapping, placements and interviews, it was possible to explore practitioners’ responses to the presence of history which is ‘everywhere’ rather than confined to specific sites and monuments. The other involved recruiting a group of scientists and local residents to undertake tutored creative writing exercises to explore a former coal-mining landscape where river restoration and post-industrial greening were key issues. Attitude, knowledge and behaviour changes were then evaluated through a series of interviews and structured questionnaires.

One of the outputs (publication 5) sits as a hybrid between empirical and theoretical work. Although this paper draws on some case studies (which entailed interviews with project officers and analysis of in-house documents) it mainly centres on the exploratory use of soft systems analysis as a way of investigating and communicating critical connectivities for landscape-scale planning. The paper therefore possesses characteristics of critical, structured reflection and interpretations, and of empiricism. Its main purpose was to explore the notion of ‘virtuous circles’ in landscape evolution. The candidate has subsequently applied this principle to studies of landscape management and regeneration.

One paper (output 8) emphasises case studies, to assess the roles that communities can play in managing cultural landscapes (Selman, 2004a). The approach here was to select countries where differences of history and economic circumstances, combined with an awareness of innovative policy and practice, might lead to interestingly complementary examples. In the first instance, key informants with insider status in landscape planning were identified. Through them, potential case studies were selected for which additional evidence was acquired through search engines (which were in relative

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<sup>2</sup> Numbering of papers accords with Table 1

infancy at the time the research was undertaken) and correspondence. The paper resonated strongly with the candidate's pervasive concern for implementation, and thus policy effectiveness was addressed in terms of factors likely to influence successful outcomes on the ground.

Two outputs (6, 9) focus on policy delivery, and broadly consider 'bridges and barriers' to implementation in the context of weak planning powers. Thus, Watts and Selman (2004) gathered information about biodiversity action planning, through field investigations and interviews, to identify forces assisting or hindering plan implementation. Hence, the analysis of supportive and obstructive trends leads to the production of 'force field' plots, showing not only where the difficulties lie, but also where effort might be focused to improve efficiency and effectiveness. The more recent paper (Selman, 2012c) draws indirectly on research into UK implementation of the European Landscape Convention. This entailed a systematic review of existing policy objectives for landscape quality and the extent to which they could be supported by current implementation mechanisms, drawing in part on the candidate's involvement in various contract research programmes. (The most pertinent research projects to this particular paper were Roe *et al*, 2009, and Roe and Selman, 2010). The methods used in the contributory studies were mainly those of qualitative policy analysis, based on content analysis of a wide range of local, regional and national policy documents. The paper is a critical reflection on how the ELC might change the nature of landscape planning, especially the effective implementation of measures for future landscape.

## **CHAPTER 3: THE PUBLICATIONS**

### **3.1 Rationale of the Publications**

The following outputs have been selected to reflect the candidate's contribution to emerging ideas about the planning and management of landscapes, both present and future. Characteristic themes of the publications comprise:

- sustainability – the ways in which a cultural landscape can itself be considered sustainable, as well as the ways it supports sustainable communities and economies.
- multifunctionality – going beyond the notion of ‘multiple use’ to a deeper notion of the way that landscape systems function individually and collectively.
- remanence – understanding the layers that have contributed to the complexity, distinctiveness and character of the current landscape, possibly in ways that enable historic elements to ‘grow old gracefully’ whilst permitting the emergence of valued new cultural landscapes.
- scale – without arguing that there is a specific ‘landscape scale’ the publications seek to understand landscapes at scales that enable a relatively holistic approach towards stewardship, with the intention of reducing physical and administrative fragmentation.
- resilience – understanding cultural landscapes as social-ecological systems so that we might seek to reduce brittleness, and promote resilience and adaptability.
- connectivity – understanding and recovering linkages within and between natural systems, and between natural and cultural systems, for example, between town and country, across the wider countryside, and above and below ground.

In essence, the selected outputs affirm that landscape is more than mere scenery, comprising a complex system of natural and social sub-systems whose properties derive from dynamic inter-relationships between these sub-systems, producing a whole which is more than the sum of the parts. The candidate's recent research centres on a core challenge facing contemporary cultural landscapes: namely, that whilst complex and multi-layered landscapes require a significant degree of functional and visual intactness for their integrity, current drivers are tending towards simplification and fragmentation.

An interest in change drivers has led the candidate to explore the potential for more dynamic approaches to landscape planning. During the first decade of the 21<sup>st</sup> century, the field of nature conservation placed increasing emphasis on the idea of ‘future nature’ (Adams, 2003) – that is, whilst recognising the crucial importance of conserving inherited habitats, interventions may increasingly focus on creating new habitats as well as carefully reintroducing certain formerly endemic species. ‘Future nature’ will not be entirely predictable and will not necessarily mimic past nature.

The candidate has emphasised a parallel perspective on ‘future landscape’ – that whilst respect for inherited character and fine, distinctive landscapes is important (historicity), there is also a need to create possibilities for new, emergent landscapes in the countryside, urban fringe and town (futuricity). These will not necessarily mimic the familiar landscapes of the past, but can nonetheless provide valued ecosystem services and human meanings.

Both in terms of their visual coherence and their unseen processes, landscapes have generally become more ‘disconnected’ in ways that compromise their character, sustainability and resilience. The candidate has recently proposed that a key aim of policy, planning and science is to reconnect landscapes in a range of physical and social ways (Selman, 2012a). Physical reconnections, for example, entail joining-up vegetated networks within an ecological habitat matrix; social ones may involve recovering links between people and place.

Such a project would require on the one hand, a credible theoretical basis for landscape-scale intervention, and on the other, an effective basis for implementing theoretically informed plans in a cross-disciplinary and inventive manner. Hence, the selection of outputs for this thesis has been based on these two principles: first, the theoretical rationale for landscape planning intervention; and second, the scope for implementing new approaches in a context of limited or absent planning powers. The selection has been topped and tailed by synoptic papers (‘overview’ and ‘future trajectory’), chosen to give a synthesis of the past and future challenges facing landscape planning.

### **3.2 Overview**

The first selected output was written as a ‘centenary’ essay for *Town Planning Review*. As such, it sought to trace the evolution of landscape planning, principally in the UK, during the 20<sup>th</sup> and early 21<sup>st</sup> centuries. It argued that landscape planning has traditionally been concerned with an agenda of protection, amenity and ornament. This focus has been important, but has remained peripheral to mainstream spatial planning. Building on an influential but partial set of practices, the latter 20<sup>th</sup> century saw landscape planning mature into a domain with coherent purposes and techniques. In the first part of the 21<sup>st</sup> century, landscape planning has identified more strongly with the core concerns of spatial planning. Through innovations such as the European Landscape Convention, landscape has become increasingly central to matters of sustainability and place-making across both urban and rural realms.

### 3.2.1 *Output 1*

Selman, P (2010) Landscape planning – preservation, conservation and sustainable development. Centenary Paper. *Town Planning Review*, 81(4), 382-406.

#### **Introduction**

Landscape planning has traditionally been concerned with an agenda of protection, amenity and ornament. This focus has been important, but has remained peripheral to mainstream spatial planning. Building on an influential but partial set of practices, the latter twentieth century saw landscape planning mature into a domain with coherent purposes and techniques. In the first part of the twenty-first century, landscape planning has identified more strongly with the core concerns of spatial planning. Through innovations such as the European Landscape Convention, landscape has become increasingly central to matters of sustainability and place-making across both urban and rural realms.

The spirit and purpose of town planning in Britain has always had to contend with a curious degree of anti-urbanism (Glass, 1972). Despite the planning system's avowed pursuit of 'the home healthy, the house beautiful, the town pleasant, the city dignified and the suburb salubrious',<sup>1</sup> an enduring perception of town planning has been to refuse, restrict and contain. Rather than celebrate, for instance, the widespread construction of decent affordable homes or an enviably reliable energy infrastructure, there has been a persistent tendency to lament their violation of a green and pleasant land. Equally curiously, despite the noble tradition of landscape planning, it has been a Cinderella specialism within town planning, barely on the radar of most practitioners. To many planners, 'landscaping' is a cosmetic exercise – something to do with prettification, stopping trees being felled and screening eyesores. Belatedly, landscape has gained some sort of elevation through the European Landscape Convention (ELC) (Council of Europe, 2000), despite being denied a Planning Policy Statement, unlike the upstart 'biodiversity'.

As a centenary essay, this article reflects on the evolution of landscape planning in the UK over about the past century, charting in particular how it has evolved from a specialised 'sector' to an integrative framework for sustainable development and smart

growth. Although the focus of the essay is on the evolution of practice within the UK, it draws upon a range of international influences. The compass of landscape planning is not defined in a prescriptive way, both because it continues to evolve and because there is no consistent agreement over its scope. Historically, ‘planning’ in the broad sense of purposeful improvement has impinged on the landscape for centuries, although this mainly concerned localised changes to ‘land’ with little awareness of regional effects. Where conscious beautification of land took place, it was normally within the artistic tradition of design rather than planning.

Even in more recent times, theorists and practitioners have not been of great help in confirming the scope of landscape planning, and a ‘semantic exploration’ of the term in the 1980s was unable to identify either its first use or offer a clear definition (Seddon, 1986). Leading proponents of landscape planning have tended to veer away from definitive statements, preferring to focus on aspects central to their own philosophies and practices. There are persistent themes of working in harmony with nature rather than against it (McHarg, 1969; Hackett, 1977), and of placing landscape issues within a wider multidisciplinary and large-scale planning context (Lovejoy, 1973; Clouston, 1986). Crowe (1967) sought to broaden ‘land planning’ to include the ‘complex organic fabric’ of life, both ecosystemic and aesthetic. More recently, Marušič (2002) has suggested that landscape planning is an example of ‘civic science’, in which the public engage in collective reasoning and creative application of knowledge about inhabiting the environment in a context of scientific uncertainties.

Most writers thus tend to focus not so much on what landscape planning is, but how they feel it should be done (Steinitz, 2008), often writing from a particular perspective such as landscape ecology (Dramstad *et al.*, 1996; Leitao Botequilha and Ahern, 2002; Steiner, 2008), land suitability analysis and environmental capacity (Steinitz and Werthmann, 2007), forestry (Fries *et al.*, 1998), or network analysis (Linehan and Gross, 1998). Broadly, landscape planning appears to be distinguished from design by its larger scale, focus on public rather than private domains, and multiplicity of clients and contracts.

At the start of the twenty-first century, the European Landscape Convention asserted that landscape planning involves ‘strong forward looking action to enhance, restore or create landscape’ (Table 1). This definition, though broadly supported in this paper, is

not without controversy. Much of what UK practitioners presumed to be landscape planning actually turned out, in the eyes of the ELC, to be ‘landscape protection’ (actions to conserve and maintain the significant or characteristic features of a landscape justified by its heritage value) or even ‘landscape management’ (regular upkeep in a context of guided change). Whilst affirming the importance of ‘landscape protection’ this paper is sympathetic towards the ELC definition of landscape planning, particularly in terms of a growing emphasis on creativity and regeneration. Thus a central problem in chronicling landscape planning is that it comprises a loose amalgam of concerns, ranging from national parks at one end to street trees at the other. Increasingly, it has become associated with assessments of character and visual impact, but this has given it a toolkit and not necessarily an intellectual core. This review seeks to track the evolution of landscape planning, showing how it has developed from a sectoral practice centred on protecting natural beauty and amenity to an integrative framework for creating sustainable places, possessing both technical sophistication and conceptual coherence.

### **Prettiness and preservation**

Although the article focuses on the past century, it is necessary briefly to delve back a little further in order to appreciate the origins of modern landscape planning. Principally, these are associated with the idea that the natural environment could possess beauty. Although this seems a banal observation, it is by no means self-evident. Nature was cruel, countryside was humdrum, parish pump gossip was intolerant, and terrain was often hazardous. The human eye might discern beauty in nature only after it had been suitably tamed, ordered and rendered polite by a wealthy landowner and his designer. If an observer saw any attraction in the untamed countryside, it was likely to be through experience of the ‘sublime’ – the philosophical counterpoint of beauty – and its sensations of human inconsequence and wonderment. It was only from around the mid-eighteenth century, and gaining momentum in the nineteenth, that philosophers, writers and artists in Britain widely began to claim that nature could possess beauty in the same way as artefacts or bodies. Admittedly, it is possible to point to the representation of framed ‘landscapes’ as objects of beauty in previous cultures – Roman and Japanese, for example – but this discussion starts from the comparatively recent recognition of and desire to protect ‘natural’ beauty. A parallel trend, gaining momentum during the late nineteenth century, was that parks and green spaces might be



considered suitable amenities for the urban masses. Initially, responses to ‘improve’ the natural scene were either for efficient agriculture or the delight of the landed gentry. The processes of land improvement and estate design are not addressed in this article, as they refer to separate, albeit parallel, practices of resource production and artistry. Rather, the emphasis here is on the landscape of public realm and open countryside which now fall within the purview of ‘spatial planning’.

**Table 1 European Landscape Convention: definitions and measures (Council of Europe, 2000)**

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**Definitions**

‘landscape’ means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors;

‘landscape protection’ means actions to conserve and maintain the significant or characteristic features of a landscape, justified by its heritage value derived from its natural configuration and/or from human activity;

‘landscape management’ means action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes;

‘landscape planning’ means strong forward-looking action to enhance, restore or create landscapes.

**General measures – each party undertakes:**

to recognise landscapes in law as an essential component of people’s surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity;

to establish and implement landscape policies aimed at landscape protection, management and planning through the adoption of ... specific measures ...;

to establish procedures for the participation of the general public, local and regional authorities, and other parties with an interest in the definition and implementation of the landscape policies ...;

to integrate landscape into its regional and town planning policies and in its cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape.

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The British landscape preservation tradition emerged in parallel with complementary international movements. Most notably, in the USA, national parks were being federally acquired from the latter part of the nineteenth century, founded on a concept of wilderness. There, aesthetics reflected the sublime transcendental and spiritual qualities of pristine lands. The movement was deeply influenced by an émigré Scot, John Muir, who articulated the humble voice of stewardship as a counterpoint to the brash rhetoric of pioneering conquest. Muir saw Yosemite as a region to ‘reserve out of the public domain for the use and recreation of the people’ so that its ‘fineness and wildness’ [was not] devastated by lumbermen and sheepmen’ (Muir, 1890). A different emphasis has

predominated in most of the European countryside (especially south of the subarctic), where there is a more evident palimpsest of time-depth and cultural settlement.

In the British tradition, the kinds of landscape regarded as beautiful have been influenced by the polite tastes of an elite. As noted elsewhere (Selman and Swanwick, 2010), the debate regarding beauty and the sublime is associated with the philosophies of Shaftesbury and Burke in the early eighteenth century, whilst the naming and framing of beauty spots was advanced by Romantic poets such as Wordsworth and artists like Turner. This period had a profound effect on society's acceptance of the importance of landscape, its representation as a visual composition, and the possibility that it might be preserved against urban encroachment. It is not surprising that the Victorian period saw a burgeoning of interest in preserving the countryside, not only on the grounds of national heritage and wholesome qualities, but also because of Pre-Raphaelite and other anti-industrial sentiments. Amongst other things, Morris's and Ruskin's representation of natural beauty as the antithesis of town and factory strongly nurtured the emergence of a voluntary preservation movement, notably the establishment of the National Trust for Places of Historic Interest or Natural Beauty in 1884. The influential thinkers (and doers) behind landscape planning in the early twentieth century extended this tradition. Selman and Swanwick (2010) have noted in particular how the appreciation and protection of rural landscapes were advanced by a small number of key protagonists, all enthusiastic for open and relatively wild countryside and concerned about its erosion by urban growth. Included in this number was Patrick Abercrombie, who paved the way for landscape planning as it came to be understood, by introducing the systematic landscape survey within the context of a sub-regional plan (Deheane, 2005). These individuals, through various committee memberships and lobbying activities, exerted a significant influence over the tenor and content of the watershed legislation, the National Parks and Access to the Countryside Act 1949.

The history of this Act and its subsequent implementation have been widely documented (e.g. Cherry, 1975; Mair and Delafons, 2001; Woolmore, 2009). It is clear that this movement deserves greatly to be celebrated. Yet, as a platform for landscape planning, it was a partial affair. It reflected a particular aesthetic tradition, was influenced by writerly and artistic conventions, and was applied to areas agreed by a relatively like-minded community of campaigners. It also affirmed the notion of landscape as something which could be framed and separated from its less worthy

surroundings. True, the national parks were also associated with more democratic arguments, such as the desire following both World Wars to cherish a hard-won heritage and the demand from factory workers to have a ‘right to roam’. Yet, the arguments supporting landscape beauty remained essentially protectionist. The 1949 National Parks and Access to the Countryside Act was in many respects a fine piece of legislation, forged in the same post-war socialist furnace as town planning, social welfare and free healthcare, and yet it bore flaws from the outset. Most singularly, whilst creating a powerful scientific nature conservation body, it offered a compromise system for national parks system in England and Wales (and surrendered to the power of Scottish landowners), and a rather token set of land access provisions. The Act, reflecting the collective wisdom of the time, assumed that landscape was synonymous with scenery, farming was a protector rather than industrialiser of the countryside, and a system of enhanced planning controls would suffice as a safeguard. Only in the two frontrunner national parks – the Peak District and Lake District – was an effective planning authority created, and the remaining eight had to rely, for the next four decades, on their constituent local authorities for expertise. Yet for all the limitations of the system, the national parks of England and Wales achieved enduring successes and have evolved over the decades to be beacons within IUCN’s Category V of Protected Landscapes (Phillips, 2002).

Indeed, it would be wrong to label the early landscape movement as narrowly preservationist: William Morris’s understanding of beauty ‘being in accord with Nature’ (cited in Taylor, 1997) has resonances with contemporary theories of ecological aesthetics; Morris and Ruskin were informed advocates of Howard’s ‘garden city’ movement; whilst the ‘rural’ reports of the 1940s showed visionary insight into interdependencies between environment, society and economy (Minister of Works and Planning, 1942; Dower, 1945). None the less, this period was subliminal in three respects in embedding a landscape planning mindset. First, landscape was essentially rural, as well as being visual and pretty. Second, development was a threat, to be repulsed by an additional layer of planning bureaucracy. Third, the dominant landscape planning technique became that of ‘designation’ – drawing a line on a map to create refuges that could be safeguarded from the tentacles of the urban ‘octopus’ (Williams-Ellis, 1929). In areas thus designated, the body could be exercised and the soul inspired in a process of physical and spiritual ‘re-creation’.

Although real ‘landscape’ was not to be found in towns, the 1947 Town and Country Planning Act greatly strengthened the enlightened urbanist tradition of providing pleasant amenities close to where people lived. The profession of landscape architecture – whose maturing credentials were reflected in the establishment of the International Federation of Landscape Architects in 1948 – reinforced society’s capacity to make cities more liveable. This facet of landscape planning was similarly related to wholesome air and pleasant views, which combined to create the elusive commodity of amenity. Enlightened developers and municipalities preserved and created amenities such as open spaces and urban parks, and were strongly influenced by the garden cities movement of Howard and his contemporaries, where decent housing was to be complemented by generous gardens and encapsulated greenspace. More ambitious and ecologically informed approaches were also pioneered in the late nineteenth century, especially in Olmsted’s ‘emerald necklace’ of parks and wetlands within Boston (Zaitzevsky, 1982).

The early practice of landscape planning thus emerged from two sources: a rural tradition which became bureaucratically codified into the selective designation of acclaimed areas of countryside; and an urban tradition of providing and safeguarding civic and neighbourhood amenity. In both cases, it was assumed that educated human intervention could reverse the ravages of development and even improve upon nature, hence the conferment of legal powers for the ‘enhancement’ of the countryside (e.g. The Countryside Act, 1968).

It is important to understand the origins of landscape planning, as these have profoundly influenced our mindsets to the present day. In particular, they have enshrined landscape as a ‘sector’, created one landscape planning tradition in the countryside based on protective designation and another in urban areas based on site design and maintenance, ring-fenced particular areas and sites as being worthy of attention and sidelined others as insufficiently meritorious, and emphasised the visual aesthetic as the primary basis for planned intervention. We have much to be grateful for from this early legacy. It was necessary to prevent wholesale loss and to nurture a range of good practices; yet it was not sufficient, either as an understanding of the phenomenon of landscape, nor as a vehicle for sustainable development. Not surprisingly, landscape planning has

progressively been reinvented (or rediscovered) as a positive practice, integral to the wider project of spatial planning.

### **Safeguard and science**

From the 1960s, the concerns of landscape planners started to become more extensive, for which a number of reasons can be suggested. First, there was the emergence of the modern environmental movement, which many would say began with Rachel Carson's *Silent Spring* (1962) and reached a crescendo in the 1972 Stockholm Conference (Ward and Dubois, 1972). Town planning could reasonably claim to be one of the pioneer environmental professions, yet in the light of the new ecological agenda it seemed flat footed. 'Sixties' planners were identified with a technocentrist agenda of demolishing the old and engineering the new. Yet the seeds of a more ecocentric approach, which would re-position planning as a key player in environmental policy, were being sown. Notably, in the USA, growing pressures from 'green' lobbyists led to the drafting of legislation for environmental impact assessment (EIA) resulting in the National Environmental Protection Act, 1970. In the ensuing decades, the widespread adoption of EIA was to mainstream environmental considerations into planning, and the Environmental Assessment Regulations of 1988 introduced the first reference to 'landscape' in UK legislation. The rise of ecocentric thinking in planning was epitomised in Ian McHarg's *Design With Nature* (1969), which framed urban expansion in relation, not to short-term socio-economic benefit, but to the long-term capacity of landscape to accommodate change.

Second, applied ecology was maturing as a science, and there was a growing understanding of the need to shift from 'preservation' to 'conservation' (Usher, 1973). Especially in highly modified regions, wildlife preserves and landscapes could not simply be left to look after themselves. The result of mere ring-fencing would be the gradual deterioration of sites which were too small and prone to external disturbance, and too reliant on traditional land-use practices, to sustain system integrity without active management. This new wisdom began to suffuse thinking about landscape planning as well as biological conservation.

Third, there emerged an increasingly scientific approach to codifying landscape, strongly influenced by the quantitative revolution of the 1960s and 1970s as mainframe computers began to transform academic and work practices. This represented a marked

shift from the origins of landscape appreciation in the arts and humanities. As previously noted, the foundations had been laid in Abercrombie's systematic approach to landscape survey developed in the 1930s, whereby he enrolled geological and other scientific knowledge in the fraught task of demonstrating 'that some scenery is more precious than other' (Abercrombie 1933, cited in Deheane, 2005). Scientific explanations for landscape preference were pursued by scholars such as Appleton (1975), and these were complemented by physical geographers such as Linton (1968), who attempted to score landscape in terms of measurable attributes. The increasing capacity for multivariate statistical analysis on the more powerful computers of the day led to further developments to predict relative landscape values from predetermined parameters (Dearden and Rosenblood, 1980). Whilst purely numerical approaches to landscape evaluation now seem crude, they left an important legacy: they mainstreamed landscape into plan-making by providing outputs that could be integrated with other planning surveys; they established that all landscapes had some importance, by producing descriptions and values for the entire territory, not just designated areas; and they affirmed the need for consistent and rigorous approaches to description and evaluation.

Techniques and theories continued to evolve during the 1980s and 1990s, facilitated by a new generation of computers with powerful text- and image-processing capabilities, and a growing emphasis in the academy on qualitative research. Similarly, the potential to engage stakeholders in deliberative processes has greatly benefited from the power of modern computers to enable us to view entire landscapes from satellite imagery (Antrop and van Eetvende, 2000), as well as the capacity to depict realistic future landscape scenarios (Lange, 1994; Schmid, 2001; Bishop and Lange, 2005; Miller *et al.*, 2008) and potential visual impacts of development proposals (LI/IEMA, 2002). Economists, too, have strongly influenced environmental decision-making by producing ways of valuing non-market goods and services. Although controversial, these have indisputably mainstreamed landscape considerations in to core planning and policy processes (Campbell, 2007).

By the turn of the twenty-first century, evolving methods of mapping and evaluation had matured into territorially comprehensive assessments of landscape character (Swanwick, 2004). The task of landscape planning was being promulgated as that of promoting distinctiveness, based on a systematic understanding of the layers of physical

features and cultural practices that had, over time, combined to make places different and special. Whilst landscapes were still seen to be fundamentally produced by their physical environment and material traces of human occupation, they were also typified by sensory qualities such as remoteness and tranquillity. Important in its own right as a methodological development, landscape characterisation resonated deeply with core planning concerns about the loss of local and regional distinctiveness in a period where globalising forces were causing everywhere to become more similar. A fourth influence was the growing importance of ‘multiple-use’ theories in rural and natural resource planning, and especially the acknowledgement that there was a wider public interest in the experience of landscape than simply the needs of the primary productive enterprise. A signal example was the work by the Forestry Commission and their landscape adviser (Dame Sylvia Crowe) in designing commercial forests so that they complemented rather than blanketed the landscape. Although essentially an exercise in ‘design’, it was over such a large spatial and temporal scale, and engaged so systematically with the complexity of land systems and their economic use, that it constituted ‘planning’. This tradition was further infused with ecological thinking, and the links between aesthetics and biodiversity, by one of the Forestry Commission’s subsequent chief landscape architects, Simon Bell (2004). CAD/GIS packages now permit more sophisticated methods of draping alternative land covers over digital terrain models, enabling realistic representation of alternative species mixes and clear/partial fells, and their changing appearance over time (Auclair *et al.*, 2001). In the UK, ‘forest design plans’ enshrine a range of good practices, and similar approaches internationally reflect the need for exemplary approaches to the landscape scale effects of forestry.

Multiple use of landscape was also driven by the rapid growth of outdoor leisure. A ‘fourth wave’ (Dower, 1965) of land transformation (the first three being industrialisation, railways and car-based suburbs), raised awareness that landscape planning in a relatively small country needed to address the whole countryside, as well as areas of especial demand such as protected landscapes and state forests (Patmore, 1970). Hence, in the late 1960s, new legislation (Countryside [Scotland] Act 1967, Countryside Act 1968) replaced the National Parks Commission with a Countryside Commission and created a Countryside Commission for Scotland. This had a major effect in signalling landscape planning as something pertinent to the entire countryside and not just elite areas. As well as revitalising the designation process (leading to

additional Areas of Outstanding Natural Beauty in England and Wales, and National Scenic Areas in Scotland), it created the new facility of ‘country park’ and introduced research and experimental powers which *inter alia* drew attention to the needs and qualities of ordinary landscapes such as the urban fringe. Green (1996) systematically depicted how the leisure and conservation phenomenon resulted in amenity becoming a major land use in its own right, and not merely a bystander on land left over after farming, forestry, water catchment and military training. The recognition that much of our land yielded far more benefit in environmental services than it did in food and fibre was leading to a transformation of rural policy and professional expertise. Fifth, an area of ‘landscape science’ evolved in response principally to the need for widespread land reclamation in the wake of de-industrialisation. As society started to demand reductions in pollution and waste, there was a growing need to find ways of recycling land which had been damaged and contaminated by mining and processing industries. On the one hand, many ambitious reclamation schemes failed for want of knowledge about soil remediation and vegetation establishment on chemically inhospitable sites; on the other hand, nature had sometimes spontaneously healed the damage by forming a vegetation cover that might host rarities, taking advantage, for example, of unusually alkaline or damp conditions. Often, conventional civil engineering approaches were necessary, especially where ground instability or dangerous toxicity posed problems to after-use. These needed to be supplemented, however, by adapting knowledge gained in conservation science, and this combination of engineering and ecological expertise opened up new possibilities for whole swathes of the country that had been despoiled by industry (Hackett, 1977; Bradshaw and Chadwick, 1980). Infusing all these trends was the emergence of the sustainable development discourse, popularised in 1980 by the World Conservation Strategy (IUCN *et al.*, 1980), and firmly established in 1992 by the United Nations Conference on Environment and Development. By the close of the twentieth century, all areas of policy were being expected to demonstrate their contribution to more sustainable living.

This point is re-visited later on, but it is clear that in the later part of the twentieth century, landscape planning was responding to major changes in society, economy and technology. In many respects, it was still a ‘toolkit’ in search of a coherent purpose; as Choy (2008) has noted, practice in landscape planning has a tendency to run ahead of



theory. The final sections reflect on the ways that landscape planning is achieving coherence both conceptually and practically.

### **People and place**

Town planning is centrally concerned with the mediation of space and making of place. Such an approach is ‘without frontiers’, because it is concerned with globalising forces, polycentric city regions and indivisible social–ecological systems. Equally, it can be concerned with intimate localities, in which reduction and compartmentalisation of environmental and governance systems have little meaning. Traditionally, the practice and mindset of landscape planning has been ‘bounded’ in three main ways, namely:

- it has relied on a designatory approach, with fine landscape lying inside the boundary and unexceptional landscape, meriting little attention from planners, lying outside;
- it has separated rural areas (which may possess ‘natural beauty’) from more urbanised areas (whose green spaces may possess ‘amenity’); and
- it has been a ‘sector’, governed in a dis-integrated way by single agencies, with little input from stakeholders and the public.

Over a period of years, landscape planning has begun to move beyond these traditional boundaries.

Mediating polyvalent space and creating identifiable places requires an institutionally and conceptually integrated approach, in which landscape is itself an ‘integrating framework’. The potential for landscape to integrate reflects its properties as a complex and multifunctional system, in which ecological, physical, social and economic processes combine (Selman, 2006). This perspective draws on a longer tradition of ‘systems thinking’ in land-use transportation planning (McLoughlin, 1969), drawing originally upon General Systems Theory. Paralleling urban planning, landscape scientists were similarly influenced by the ecosystem approach which, whilst dating from the 1930s, effectively caused a ‘paradigm shift’ in the 1960s (Golley, 1993). Although planning and ecological discourses tended to remain separate, they have become more closely aligned through theories about the resilience of social–ecological systems at the landscape scale (Matthews and Selman, 2006). Realising this integrative

role requires that planners understand landscape as something with hidden depths and intricate interrelationships, where the visual scene is merely a surface manifestation of natural dynamics and human stories. This perspective was engagingly depicted in Natural England's publication *Landscape: Beyond the View*, which argued for the conservation, adaptation and enhancement of the natural and built environment ... better managed to meet society's needs and respond to forces for change, but within environmental limits ... a landscape where sense of place is being enhanced, biodiversity is increasing and a healthy local economy is supported. (Natural England, 2006, 16)

In many regards, the evolution to a more comprehensive and integrative style of landscape planning is merely an elaboration of ideas espoused by McHarg and others. However, it is capitalising on several decades of experience in landscape ecology, stakeholder engagement and resilience theory. Latterly, signatories to the European Landscape Convention have been challenged to re-assess their traditional practices, even where well developed, in the light of the Convention's articles. In essence, the ELC promotes a style of landscape planning in which protection of special landscapes and strong forward-looking action to create new ones are given equal emphasis. It sets a context within which the three traditional binaries of landscape planning noted above – 'best and rest', urban–rural and stovepipe governance – can be transformed. First, the understanding of designations has been changing from one of protectionism to one of exemplifying virtuous relationships between sustainable management, celebration of landscape character, pride in place, and endogenous economic development. In the UK, modern landscape planning really starts with the 1949 National Parks and Access to the Countryside Act and, since then, national designations have been supplemented by a raft of local ones (Scott and Shannon, 2007). This legacy is seen by some as an essential precaution to prevent the dissipation of distinctive traditional heritage, and by others as 'legal 'living fossils' which do not reflect the way in which thinking has moved on'. (Bishop *et al.*, 1997, 102).

The designation principle cannot be dismissed easily, if only for pragmatic reasons such as complying with international legislation and empowering planners with 'lines on maps' (which are often necessary for consistency in decision and enforcement). 'Special areas' remain an essential complement to wider countryside strategies (Selman, 2009), and the spirited response from their defenders has been continually to reinvent them, away from amenity preservation and towards the emerging discourse of sustainable

development (Holdaway and Smart, 2001; Janssen, 2009). Rather than providing a greenwash of prettiness, ‘special areas’ are becoming greenprints for sustainability (McEwen and McEwen, 1987). The new Scottish National Parks have confounded sceptics by quickly asserting an innovative role in balancing landscape custodianship with sustainable development. The creation of new national parks in England (New Forest and South Downs) reflects the reinvigorated case for safeguard and sound management, and affirms the relevance of the protected areas model in the lowlands as well as the uplands. Areas of Outstanding Natural Beauty have been strengthened as a positive designation through the creation of Boards and a requirement to produce management plans (under the Countryside and Rights of Way Act, 2000).

Equally, the marginalisation of non-designated areas that occurred during the twentieth century is now being redressed by the principle that ‘all landscapes matter’ (Natural England, 2008). The stimulus for territorially comprehensive landscape planning has largely been associated with the remarkably rapid acceptance and widespread application of Landscape Character Assessment (LCA) and cognate approaches. In marked contrast to the episodic and half-hearted uptake of previous landscape survey approaches, characterisation has been widely conducted according to a consistent methodology and incorporated into local development frameworks and regional strategies. This mirrors the European Landscape Convention principle that landscape character is everywhere, and that signatories should analyse the characteristics of their entire landscape and its transformative forces and pressures. The principle continues to evolve and is now being extended to seascapes, with the coast becoming the new frontier of landscape mapping and the land–sea subsystem being integrated into the wider social–ecological system (Hill *et al.*, 2001; Winn *et al.*, 2003).

Second, the division between town and country has become increasingly blurred as ‘heavy’ industry has declined, and a renewed emphasis has been placed on urban liveability. Whilst amenity and natural beauty are still widely enrolled terms, their meaning now implies the numerous contributions that multifunctional greenspace can make to human survival and quality of life. Thus, Pauleit (2003) has noted that greenspaces can shape the character of a city and its neighbourhoods, provide places for outdoor recreation, and have important environmental and human health functions. The recognition of landscape’s multifunctional potential spanning both town and country started in earnest with the growing influence of ecological design. Here, the Dutch

landscape movement was particularly influential (Ruff, 2002), albeit one which has proved difficult to embed in the minds and actions of local authority greenspace managers. Thus, in contrast to the ‘unnatural’ highly modified and managed urban landscapes – which are still eminently appropriate to certain situations – there was a growing advocacy of ‘natural’ greenspace, provided according to an Accessible Natural Greenspace Standard (Harrison *et al.*, 1995; Pauleit *et al.*, 2003; McKernan and Grose, 2007). This has been complemented by rapidly developing knowledge about the role of corridors, nodes and matrix in the wider countryside (Bennett, 2003) and cities (Kazmeirczak and James, 2008). Increasingly, urban–rural continua of blue–green multifunctional systems are being promoted in relation to sustainable drainage, climate change, well-being and health, property values, employment and other issues (Maas *et al.*, 2006; Gill *et al.*, 2007; James *et al.*, 2009). Latterly, there has been an awareness of the ‘rural’ roles that can be performed by urban landscapes – such as affording outdoor recreation opportunities that minimise carbon use and maximise social inclusion, amenity and productive woodlands, promoting biodiversity on roofs and in gardens, and producing food (Thomson *et al.*, 2003; Angold *et al.*, 2006; Tzoulas *et al.*, 2007), assisted by the ‘bridging’ potential of the urban fringe (Gallent *et al.*, 2004; 2006). These are now being systematically reflected in the more enlightened green and open space and green infrastructure strategies (CABE Space, 2009), although planners still do not always grasp the scale and quality of provision necessary for the effective delivery of ecosystem services.

The Community Forest programme, together with the creation of a new National Forest and Central Scotland Forest, has helped to reconfigure multifunctional land cover over extensive urban fringe areas and provide new settings for conurbations. Their success in practice has been mixed because of the spatially uneven opportunities to achieve public goals on mainly private land (Land Use Consultants/SQW, 2005). Objectives can usually only be achieved where social–economic ‘drivers’ – such as farm diversification opportunities, mineral restoration, development ‘gain’ and reclamation programmes – converge with landscape objectives. In central Scotland, new woodland programmes are intended to create functionally integrated networks designed in collaboration with stakeholders and the wider public (Land Use Consultants, 2008).

Third, landscape has been instrumental in reducing the ‘silo mentality’ of environmental governance. For a long time, landscape has been treated as a separate sector, barely

adequately addressed through the land-use planning system. This led to unfavourable comparisons with legislatures in other countries, notably Germany, where landscape appraisal had been a vital component of the planning system since 1973, has informed a suite of actions from regional development to the positive enhancement of local environments (Punter and Carmona, 1997), and where construction law recognises landscape planning as an important tool for protection, maintenance and development (von Haaren, 2002).

Although sectoral approaches have dominated countryside planning, the late twentieth century saw a progressive emphasis on joined-up governance. This has enabled a better accommodation of landscape considerations within areas such as forestry, transport and housing policy, not only to reduce their negative effects, but also to capture significant benefits for creation and enhancement. The trend towards integration led, amongst other things, to the merger of landscape agencies and nature conservation agencies in Wales (1990), Scotland (1991) and England (2006). Character mapping has also facilitated integrated governance, as landscape character areas have proved remarkably compatible with ecological zones. In England, the former 'Natural Areas' (Porter, 2004) were combined with landscape attributes, into National Character Areas, with similar outcomes in Scotland; in Wales, the LANDMAP system has integrated aspect layers on ecological, physical, cultural and economic topics from the outset (Owen and Eager, 2004). Further, Historical Landscape Characterisation (MacInnes, 2004) is extending our appreciation of time-depth beyond 'sites and monuments' and is disclosing the legibility of place, both in town and country.

Further, the engagement of stakeholders and public has evolved steadily if sporadically in landscape planning. The IUCN has promoted it as an essential ingredient of protected area management (Price, 2002) whilst participation has often been encouraged in the inventory (Scott, 2002) and sustainable use (Selman, 2004) of more ordinary landscapes. There have also been experimental transdisciplinary approaches in which experts and stakeholders fuse codified and local knowledge in the framing of landscape futures (Tress and Tress, 2003). Again, reflecting the requirements of the ELC, landscape planning is becoming a systematically more democratic enterprise, and opening up new opportunities for place-centred social learning.

## **Reconnection and regeneration**

By the start of the twenty-first century, landscape planning had achieved an important status and accumulated an impressive toolkit. Yet it is debatable whether it had acquired a clear conceptual coherence. Whilst the initial discourse of landscape planning had centred on the spiritual zenith of awe-inspiring uplands and painterly lowland valleys, this focus is potentially elitist and exclusive, and is an insufficient basis for professional or theoretical advancement. One consequence of the twentieth century legacy is that the UK has developed mature and elaborate modes of protection but has only achieved relatively localised success in landscape planning in the ELC's sense of 'strong forward looking action'. One writer to express this frustration was Turner (1998). Addressing the landscape context of major development categories – public open space, reservoirs, agriculture, minerals, forests, rivers, transport and urbanisation – Turner rebuked the obsession with impact mitigation and examined, instead, the scope for more creative design within an acceptance of landscape change. His assessment of landscape within planning captures a contemporary and continuing vein of concern – that planning control has a habit of fostering uniformity and blandness whereas the key professional challenge should be that of promoting distinctiveness and integrity. By treating landscape as the primary context rather than an afterthought, Turner argued that land-use change could be accommodated in ways that promote character, identity and placeness. Key writers have consistently averred that the purpose of landscape planning is to promote ways of living in sustainable relationship with land and water, so as to reinforce human prosperity and wellness.

This cannot be achieved simply by shoring up obsolescent agricultural practices and mitigating development by 'landscaping'. The re-positioning of landscape within the sustainable development agenda (Roe, 2007), reflects the fact that landscape's systemic properties place it at the centre of actions regarding ecosystem services and environmental change. Writers such as Thayer (1994) have rekindled the 'land ethic' as a principle for landscape planning and management. At a policy level, landscape has been seen to underpin 'natural capital' (Haines-Young *et al.*, 2006), supplying non-market or public benefits (e.g. biodiversity, carbon sequestration, health benefits, property values, urban microclimate, regeneration and social cohesion), and supporting a range of ecosystem services (Millennium Ecosystem Assessment, 2005).

It has been suggested that there are five dimensions to sustainable landscapes (Selman, 2008). There is *environmental sustainability*, strongly influenced by landscape ecology's concern with spatial patterns and processes (e.g. Farina, 2006) and the enhancement of a fragmented and degraded matrix (Taylor Lovell and Johnston, 2009). The *economic sustainability* of landscapes has often been expressed as the maintenance of attractive scenery to support tourism and recreation. However, this limited (albeit important) view fails to reflect the significance of 'virtuous circles' where endogenous, spontaneous economic activities are mutually coupled to sustainable landscape services (Powell *et al.*, 2002; Selman and Knight, 2006; Vollet *et al.*, 2008).

*Social sustainability* in landscapes is often addressed in terms of participation and inclusivity in decision-making and access (Moore-Colyer and Scott, 2005). In addition, a deeper understanding of 'peopled' landscapes is emerging which concerns their legibility, narratives, customary laws and social learning potential (Ingold, 2000; Olwig, 2005). The *political sustainability* of landscape requires effective governance structures, involving both insiders and outsiders, and bringing together partnerships between private, public and third sectors. *Aesthetic sustainability* is uniquely important to landscape, not only because visual amenity has been a longstanding mainstay of policy, but also because it is often assumed to indicate healthy functioning of underlying systems. Thus, there may be a 'fitness' of appearance between the human and the natural (Carlson, 2007), and need for intelligent care of aesthetic attributes based on a deep appreciation of underlying dynamics (Iverson Nassauer, 1997). It is proposed here that the emerging purposes of sustainable landscape planning can be encapsulated as regeneration and reconnection. The practice of land regeneration is not new, and it has been seen in the re-modelling of post-industrial areas (Greenhalgh and Shaw, 2003), garden festivals (Holden, 1989), and the investment landscape of inner urban areas and docklands (Moore, 2002). The potential of landscape to regenerate and re-inspire, and the planner's role in this, were persuasively articulated by Fairbrother (1970). Whilst the restoration and rehabilitation of sites has often resulted in bland and predictable landscapes, examples such as the Emscher Park demonstrate what can be achieved in terms of place-creation and land-healing through ecological processes (Shaw, 2002). There is a growing acknowledgement that regeneration is about more than physical reclamation techniques and, whilst physically successful remediation technology is still crucial, regeneration is a wider process that capitalises on the multifunctionality of

social–ecological systems (Ling *et al.*, 2007). Unsustainable land use leads to degenerative landscapes. Wise stewardship promotes regenerative and resilient landscapes (Lyle, 1994), supported by a range of regenerative design techniques (Melby and Catchart, 2002).

Reconnection – of natural systems and of people with place – draws upon landscape’s manifold and layered qualities, and its spatial and systemic integration of a range of functions (Naveh, 2001). People in technologically advanced societies have become disconnected from daily reliance upon and contact with nature, and it has been widely suggested that this leads to loss of attunement to natural systems. Hence, there are arguments in favour of social reconnection, instilling awareness and care of local landscape, promoting attachment to and pride in place, and encouraging the nurture of landscape services for their long-term economic and human benefits. Physical disconnection has also occurred, notably through the emergence of urban heat islands, fragmented habitats and corridors, and disruption of hydrological connectivity by ‘sealed’ urban surfaces.

A connected ‘green infrastructure’ is now seen as a key delivery vehicle for landscape multifunctionality, re-establishing links across the urban–rural continuum (Kambites and Owen, 2006; Mell, 2009). Although some green infrastructure projects have merely re-badged amenity open space and corridors, a more strategic and embedded approach is emerging. In this, generous swathes of green also incorporate the blue (surface and ground water) and the invisible (airsheds). Particular opportunities for reconnection are associated with sustainable urban drainage systems, habitat networks, urban gardens, and climatically inspired planting strategies. There are also plausible grounds to suppose that democratised styles of landscape planning will encourage people to care for local environmental goods and services, raise consciousness of the interdependence and dynamics of social–ecological systems, and afford opportunities for social learning by engaging with practices of wise environmental stewardship in familiar and valued settings.

## **Conclusion**

As the twentieth century drew to a close, Punter and Carmona (1997) found that local authorities’ landscape policies generally remained conservative and unadventurous. British practice continued to rest, in the main, on a superficial understanding of



landscape, leading to its treatment as a simplistic constraint on site development rather than as something which could realise the unique potential of place. Thus, despite decades of achievement, the twentieth century still closed with a sense of missed opportunity. By contrast, in 2005, Adrian Phillips remarked that landscape had ‘come in from the cold’. Instead of hovering on the periphery, landscape had become central to the search for more sustainable ways of living, for four reasons:

- landscape is universal – concern for landscape is no longer confined to what is conventionally considered as the most beautiful or ‘least spoilt’ landscapes;
- it is dynamic – landscapes inevitably change and evolve over time through natural and social causes, and should not be ‘frozen’;
- it is hierarchical – landscape is like a ‘Russian doll’ of nested scales; and
- it is holistic – landscape cannot be understood or managed except through an integrated, multidisciplinary approach, which embraces all its ecological, cultural and social components (Phillips, 2005).

It is thus a medium through which people and nature can be (re)connected.

It is suggested here that landscape planning is currently evolving in three key ways. It is consolidating an essential toolkit of practices, around characterisation, impact assessment, economic valuation and democratisation. It is cohering conceptually around the need to steward and reconnect social–ecological systems in a sustainable and integrated way so that they remain resilient and regenerative. It is rebalancing the roles of ‘protection’ and ‘planning’, learning from past and present greenprints in order to create places which touch lightly on the earth and enhance quality of life. Natural beauty and amenity are still relevant, but planners need to see beyond the view and, rather than merely gazing in a detached way on a pretty scene, infer underlying landscape resilience from visual cues.

A pre-eminent policy device of the twenty-first century has been the European Landscape Convention. In some respects, the ELC appears to add little to the current landscape planning agenda in the UK, and it was eventually ratified by the government on the presumption that only a minimal adjustment was required in order to achieve compliance. This was probably a misperception, as the ELC has a genuinely radicalising

potential. For example, it directs attention at all landscapes and requires that people should be actively involved in setting objectives for their future. Similarly, it affirms the idea that different approaches are necessary in different contexts, whether protection, management or planning, or some combination of these. Planning is defined in terms of strong forward-looking action, ensuring that it is relevant in damaged and unattractive landscapes as well as in more obviously aesthetic ones. It is a striking attempt to move beyond the best-and-the-rest view of landscape, and to orchestrate democratised action relative to an area's character and condition. The ELC is also eminently consistent with the emerging emphasis on multifunctionality and sustainability.

Thus, from being a Cinderella specialism, landscape is starting to realise its potential as an integrative framework, central to conservation, growth and regeneration in both town and country. It is at the heart of many of the most important themes of contemporary planning – sustainability, quality of life, place-making, attracting inward investment and healthy lifestyles. The properties of landscape character, distinctiveness and resilience provide a framework for achieving place-based integration across multiple planning goals.

The origins of landscape planning in Britain lay in anti-industrialism; nowadays, vigilance against the irreversible loss of the finest scenery to unsustainable development remains as necessary as ever. Yet the emphasis of contemporary landscape planning is associated far less with prevention, and more with the positive potential of landscapes to reinforce pride in place and environmental sustainability. Indeed, in a post 'smokestack' economy, many forms of economic production are not only compatible with landscape, but may even drive valued cultural landscapes of the future. Thus, whilst landscape planning has provided a priceless legacy of national parks and other protected areas, it must continue to evolve beyond this restricted focus. In a sense, landscape planning continues to identify with its two traditional pursuits: the safeguard of natural beauty and the provision of amenity. Although semantically these terms may appear quaint, they remain relevant and require only to be continuously reinvented. Thus, natural beauty must be taken to signify far more than the painterly scene. Visual harmony or dysfunction often infer the 'hidden' condition of underlying systems. Equally, we need to make conscious efforts to see beauty in the untidiness of nature, or the creative landscape potential of new economic land uses. Similarly, amenity has to be understood as more than 'pleasant circumstances or features'. Although a vague term, it is still the

legislative catch-all, and thus needs to be accepted and related positively to our mature understanding of the factors which create conducive places. In this respect, amenity demonstrably relates to opportunities for safe and healthy exercise and play, reconnection with nature, environmental security in terms of climate change and water cycles, and the legibility and distinctiveness of public and private realms.

However, whilst the traditional canons of landscape planning remain valid, planners still need consciously need to wean themselves off tendencies to museumise an imagined past. The instinct to plan landscapes is grounded in preservationism, but the task of landscape planning is to recognise the potential of drivers of change to increase or diminish character and sustainability. Within a positive view of landscape planning, even protection and conservation are forward looking activities which accommodate sustainable change. In this light, we can offer some axioms for future practice. First and foremost, landscape planning is applicable to all landscapes, not just to ones that are designated for special aesthetic merit. Broadly speaking, there are four strategies that can be applied to landscapes – conserve, reinforce, restore or create (Warnock and Brown, 1998). One or a combination of these will be applicable to every context, and will assist the promotion of landscape qualities for insiders and outsiders. Clearly, this does not mean the application of heavy-handed state intervention to every square kilometre of land; rather, it means the application of an intelligent blend of control, grant aid, advice, support, guidance, partnership, management and care, based on sensitivity to local conditions.

Second, landscape planning must concern the future as much as the past. It is clear that strict preservation is rarely appropriate or possible in cultural landscapes which have co-evolved with human activity over many centuries. Even the most cherished traditional landscapes must therefore be stewarded in forward-looking ways, so that a learning society can appreciate their wider lessons about sustainability, and their delicate yet resilient balance between economy, culture and environment. Equally, some landscapes require extensive remediation in ways that respect local knowledge and environmental conditions, and balance a new identity with distinctive place legacies. Climate change is also becoming a driver to which positive response is essential, otherwise landscapes will deteriorate as they and their species experience stress from unfamiliar temperature and wetness regimes. Deliberating such futurescapes with existing stakeholders will provide a major challenge. Planners require a capacity to perceive change as something which

can potentially create valid new landscapes possessing their own distinctiveness, rather than seeing ‘landscaping’ simply as a means of mitigating developmental impact.

Third, landscape is urban as well as rural. There is a well-embedded legacy of planning for urban amenities, but a very limited tradition of managing them to their full potential as multifunctional resources. There is also a generally poor recognition of the extent to which the time-depth and legibility of the urban environment creates a sense of place, even within localities which the casual observer might dismiss as lacking interest or merit. Most fundamentally, cities of the future must touch lightly on the earth. A key element of this will be to forge a blue–green infrastructure of interconnected corridors and spaces across the city, delivering multiple ecosystem services. This needs to be of a scale that will demonstrably support the habitat and movement of a rich biodiversity, assist the improvement of local climates in a context of atmospheric warming, permit the operation of natural water cycles within acceptable levels of hazard, and appeal to residents as an extensive and interesting destination for exercise and recuperation. It may also be a place of significant food production and energy generation.

Fourth, planners need to develop an appreciation that landscape is more than simply the ‘view’. The landscape we see is merely the surface expression of underlying ecology and culture, in which visible character and distinctiveness provide a litmus test for deep-seated sustainability. In this respect, landscape provides the common ground for public, private and voluntary sector interests related to the change and conservation of urban and rural environments. Provided our understanding goes beyond a superficial appreciation of prettiness, then landscape affords a conceptual and spatial frame for integrating sectoral activities associated with construction, conservation of time-depth and wildlife, and natural resource production.

Landscape planning thus has an increasing intellectual coherence as a practice focused on the sustainable development of built and natural environments. This coherence reflects its applicability to town and country, past and future, local and regional, people and place, conservation and change, and nature and culture. It is integrally concerned with the promotion of distinctiveness, character and sustainability in all landscapes in ways that enhance people’s quality of life and the maintenance of ecosystem services. It is thus a mainstream concern of all planners, rather than a peripheral specialism. Yet it

could not have become any of these if it had not been for Wordsworth's celebration of scenic splendour, Hill's passion for natural beauty, or Muir's wonder at the sublime.

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### 3.3 Planning theory for large-scale interventions

#### 3.3.1 Preface

The following four papers are characterised by a concern for new conceptions of landscape planning. The preceding overview explored changing ideas about landscape and their implications for planning practice. Before considering issues of implementation and delivery, therefore, it is appropriate to delve further into underpinning concepts. The selected papers explore both the seen and unseen in landscape. They provide a critical basis on which planners can seek to protect and create valid landscapes now and in the future.

In the first instance, although the candidate has repeatedly argued that an understanding of landscape based purely on scenic prettiness is clearly insufficient, nevertheless, an acknowledgement of aesthetic values is essential. Aesthetic appreciation remains pivotal to both the intrinsic value and purposeful planning of landscape. Indeed, the candidate has argued elsewhere (Selman, 2008) that landscape, possibly uniquely, requires to include aesthetics amongst the canons of what constitutes ‘sustainability’.

The first two papers in this section therefore probe the issue of landscape aesthetics. The first – *On the Meaning of Natural Beauty in Landscape Legislation* – arose from research undertaken (with Professor Carys Swanwick) for the Countryside Council for Wales at a time when the meaning of the term ‘natural beauty’ in the National Parks and Access to the Countryside Act 1949 was being contested, principally in the light of the designation of two new national parks in southern England. The paper shows how the term ‘natural beauty’ has been an important criterion for designating and managing fine landscapes, and yet its lack of precision has latterly proved problematic, and there have been legal challenges to its use in practice. The paper proposes an extended meaning for the term which is consistent with the intentions of the original legislators.

The second paper – *Learning to Love the Landscapes of Carbon Neutrality* – arose from a presentation to a meeting sponsored by the European Science Foundation, in Paris, and was subsequently developed as a peer review paper, alongside selected other presentations from the same meeting. It particularly explored the idea that the landscape aesthetic is not an ‘absolute’ and will vary according to contemporary cultural norms and preferences. Drawing upon Bourdieu’s concept of the ‘acquired aesthetic’, it



proposed that, if society progressively accepts the need for radical responses to the sustainability transition, then the apparatus of that transition may acquire aesthetic acceptability. Therefore, the paper recognises that society's increasingly earnest pursuit of sustainable development will involve landscape changes that attract protest and opposition, and which may prove a barrier to the adoption of measures to reduce our carbon footprint. However, landscape changes which provoke controversy may produce outcomes which become accepted and valued after a period of time. The paper raises the possibility that, by emphasizing the narrative of ingenuity underlying the challenge of sustainable development, we can learn to see beauty and attractiveness in emerging landscapes of carbon neutrality.

The next paper – *Applying Historic Landscape Characterization in Spatial Planning: from Remnants to Remanence* – exemplifies one of the candidate's persistent arguments, namely, that landscape be understood as a multi-layered, multi-valent, multi-vocal system (Selman, 2006, 2012). It is therefore necessary to look beyond superficial appearance, and to understand the numerous patterns, processes and stories which produce landscape's richness and diversity. Although this paper emphasises mainly the narratives and meanings associated with landscape, similar issues prevail in relation to natural environmental functions. It centres on the use of Historic Landscape Characterisation (HLC) in order to reveal how ubiquitous traces and cultural associations help to create a distinctive sense of place. Interventions with local authorities resulted in the uptake of HLC data in planning and land management policies, as well as planners' more general appreciation of the significance of time-depth, and how this could be supported through emergent techniques. Overall, the paper shows how an emphasis on the evidential value of landscape time-depth resulted in a shift of focus from 'remnants' to 'remanence'.

The final paper in this section – which derives from an early contribution to an interdisciplinary Research Council initiative on the Rural Economy and Land Use (RELU) – explores the interactive and dynamic nature of landscape. Here, the candidate demonstrates how landscape, rather than being a 'sector' concerned with scenic protection, is in fact an integrative framework through which the rural environment can be comprehended and managed. Thus, the candidate advocated that landscape was something to be planned 'through' rather than just 'for', and that it provided the setting for 'virtuous circles' of sustainable rural development. Although

not included here, it is important to note that a related paper, co-authored with another RELU grantee (Matthews and Selman, 2006), extended the above ideas into ‘resilience theory’. This collaboration was crucial to the candidate’s later exploration of social-ecological systems (SES) as a basis for understanding the resilience of past and emergent cultural landscapes. In particular, this latter paper re-presented the ‘virtuous circle’ of landscape accumulation in terms of SES cycles, where the system grows by building up capital and interdependence. Matthews and Selman (2006) proposed that, for systematic landscape research and planning – whose objectives may range from strict conservation to uncharted ventures into new environments – more comprehensive simulation models, as test beds or virtual laboratories, are needed. These need to be sufficiently robust and quantifiable to accommodate more radical changes of state than the retention of ‘recent past’ conditions, and to characterise ‘vicious’ as well as ‘virtuous’ tendencies.

### 3.3.2 *Output 2*

Selman, P and Swanwick, C (2010) On the Meaning of Natural Beauty in Landscape Legislation. *Landscape Research*, Vol. 35, No. 1, 3–26. (Candidate’s contribution: initiating, leading, authoring, each 50%. Research was about equally undertaken; the candidate led on writing the paper).

#### **Introduction**

The concept of natural beauty is one of the cornerstones of legislation to protect landscapes in the UK. The term ‘natural beauty’ has existed formally in legislation for England and Wales since the 1949 National Parks and Access to the Countryside Act, and has parallels in the Northern Ireland 1965 Amenity Lands Act and 1985 Nature Conservation and Amenity Lands Order, whilst the Natural Heritage (Scotland) Act 1991 includes ‘natural beauty and amenity’ within its definition of natural heritage. The significance of the concept extends well beyond the UK, and has more general implications for ‘protected areas’ which fall into IUCN Category V protected landscapes/seascapes<sup>1</sup> and which are predominantly ‘cultural’ rather than ‘natural’. The beauty of such places cannot be natural in the strict sense, and this paper explores the current meaning and use of the term in relation to the designation and management of protected cultural landscapes.

The 2004 review of the National Park Authorities in Wales commented<sup>2</sup> that “the breadth of the term ‘natural beauty’ ... is not well understood by all those who take decisions affecting National Parks”. As a result the Welsh Assembly, in its National Park Review Action Plan, asked the Countryside Council for Wales (CCW) to produce a statement on the full scope of ‘natural beauty’. This paper arises from research undertaken for the Countryside Council for Wales to produce such a statement.

Although the term ‘natural beauty’ initially seems uncontroversial, in practice it has had to serve as a vehicle for successive trends in landscape planning, and its implicit meanings have been stretched to the point where its continued policy and legal fitness is questionable. Equally, however, it is associated with much policy and legal precedent, and is a widely used and familiar phrase without an obvious alternative. In order to explore its continued suitability as a basis for planning fine landscapes, this paper

examines it from four perspectives. First, we consider the theories and concepts which have underpinned natural beauty, ranging from aesthetic arguments to more utilitarian justifications. Second, we explore the origins of natural beauty as an official term, noting the evolution from high culture, preservationist discourses to more instrumental arguments about town planning and nature conservation, and from which 'natural beauty' eventually prevailed amongst legislators as the preferred shorthand expression. Third, we identify how the term evolved during the latter half of the twentieth century, as advances in landscape planning required a fuller articulation of the qualities that were to be protected or enhanced within fine landscapes. We also consider the sifting of the term in public inquiries, noting in particular its contested meanings between different parties. Finally, we report on a stakeholder consultation which debated the continuing value of the term as an axiom of landscape protection, management and planning. At present, the UK is heavily relying on 'natural beauty' legislation as a basis for complying with the European Landscape Convention,<sup>3</sup> stretching its original intentions yet further. It is clear that natural beauty is a dynamic and malleable concept, potentially posing problems for consistency of interpretation, and yet apparently retaining a continuing relevance.

### **Concepts and Theories Underpinning Natural Beauty**

While there is little scholarly literature on natural beauty per se, cognate landscape topics are well represented in the literature, reflecting a long-standing interest in the nature of aesthetics and the inspirational qualities of beautiful countryside. The body of theory on aesthetics relates to several categories of object including the natural environment, while there have been extensive debates about closely related concepts such as 'sublime', 'picturesque' and 'wilderness'. Latterly, many researchers have investigated links between the landscape and human well-being. All of these offer some convergent ideas, although their differences create problems in agreeing a durable definition of natural beauty. Perhaps the most fundamental difficulty in interpreting natural beauty is that the term appears generally to have been assumed, by its originators, to be obvious and self-explanatory. However, as Appleton<sup>4</sup> has observed, the discussion of natural beauty is often discipline specific and highly subjective.

For example, within philosophy (particularly the study of aesthetics), the early eighteenth-century debate led by Shaftesbury<sup>5</sup> and Burke<sup>6</sup> centred on the distinction

between beauty and the sublime. These two notions were deemed opposite ends of the emotion spectrum—sublime being related to vistas that evoked reverence, fear and horror, and beauty being associated with feelings of pleasure from gazing on a smooth, delicate and lovely scene. Both beauty and the sublime provoked a passion related to the view, although they were difficult to reconcile as one was founded on pleasure and the other on pain. The literature and fine art of the Romantic Movement—for example, writers such as Gilpin<sup>7</sup> and Price<sup>8</sup>—introduced a category of ‘picturesque’, which was used to describe a scene that was not delicate and smooth but had interesting sharp angles, variety and, often, ruins as an allusion to human ‘fall’ and the capacity of nature to regain ownership of a landscape. Wordsworth's *Guide to the Lakes* published in 1810 reflected these picturesque sentiments in chapters on the forms and colourings of natural features, and charms and character evolved from human inhabitation.<sup>9</sup> This predominantly European standpoint contrasted with the ‘wilderness concept’ that emerged in response to the exploration of Northern America and the New World in the nineteenth century. Reports of the scenery were in no way romantic or picturesque and wilderness encapsulated areas with a primeval character and minimal anthropogenic influence.<sup>10</sup> The observer was still interested in the aesthetics of the scene but perhaps more so in the transcendental experiences and spiritual feelings it evinced.

Other writers have looked more synoptically at the properties of beauty, and provide insight into its defining attributes. For example, in the eighteenth century, Hogarth's<sup>11</sup> analysis was instrumental in addressing the problem of pure subjectivity, arguing that beauty should be related to principles of fitness, variety, uniformity, simplicity, intricacy and quantity. Bell<sup>12</sup> draws attention to the contributions of Schopenhauer—who suggested that natural beauty relates to the spirit of the place (*Genius loci*) where distinct features fit together well—and Whitehead—whose analysis of aesthetics incorporated ‘massiveness’ (variety of detail with effective contrast) and ‘intensity proper’ (magnitude and scale). More recently, Carlson<sup>13</sup> has sought to explain aesthetic experience of landscape in terms of both multisensory ‘engagement’ and ‘cognitive’ understanding of its nature, potentially leading to preferences for landscapes where there appears to be a ‘functional fit’ between human interventions and the natural environment.

The study of aesthetics, in which the response is perceptual rather than rational and factual, and where the observer passively viewed the landscape and judged its looks

according to contemporary rules, prompts a subjectivist paradigm in which the beholder rather than the object determines the aesthetic. As noted, this view dominated before and during the nineteenth century, and Lothian<sup>14</sup> argues that it has a continuing relevance to landscape appreciation. Budd<sup>15</sup> and Brady<sup>16</sup> have considered aesthetics in relation to ‘nature’ and the environment, and they concentrate principally on providing a critical understanding of what aesthetic appreciation of nature involves. While neither sheds particular light specifically on what might be meant by the ‘natural beauty’ of the countryside, Brady<sup>17</sup> does assemble categories of aesthetic qualities (such as ‘sensory’ and ‘symbolic’) which have distinct resonance with the properties frequently ascribed to human reactions to landscapes.

During the past 20 years or so, there has been an empirical trend towards demonstrating how (positive) landscape attributes are linked to human preference and well-being. While these are separate issues—the former relating to aesthetic appreciation based on recordable features and the latter providing a more instrumental justification for landscape interventions—they overlap extensively in practice. For example, many papers describe how research participants consistently choose natural or semi-natural landscapes relative to those with many urban features (Van den Berg *et al.*;<sup>18</sup> Herzog *et al.*;<sup>19</sup> Staats *et al.*;<sup>20</sup> and Ulrich<sup>21</sup> ). Kaplan<sup>22</sup> asked a large sample of residents what visual preferences they had from their windows and those with numerous natural elements such as trees and flowers reported tranquillity, peace and more positive thinking. Williams and Harvey<sup>23</sup> describe the transcendent experiences among a group of visitors to a forest, notably, feelings of the sublime, individual insignificance, awe and relaxation. Fredrickson and Anderson<sup>24</sup> analysed the accounts of female trekkers’ experiences of the Grand Canyon and northern Minnesota, and recorded diverse emotions from a sense of infinitude to renewal of strength and capability. Real *et al.*<sup>25</sup> related expressed landscape preferences to models of human behaviour, particularly those based on psychophysical and cognitive paradigms, and also confirmed that natural beauty may have demonstrable positive effects on physical and mental well-being.

Ulrich *et al.*<sup>26</sup> investigated the effect of showing volunteers a distressing film and then following this with a film of an urban scene or a film of the natural environment. They found that both psychological and physical signs of stress reduced quickly and effectively when people looked at a scene of trees, lakes or meadows. Similar experiments were carried out by Van den Berg *et al.*, Herzog *et al.* and Purcell *et al.*,<sup>27</sup>

with comparable results. Staats and Hertig<sup>28</sup> confirmed the restorative effects of group and solitary landscape experiences, while Mitchell and Popham<sup>29</sup> have shown that exposure to green environments can significantly mitigate socioeconomic health inequalities. Harmon<sup>30</sup> proposes that appreciation of natural beauty is basic to human nature, and thus has therapeutic and enriching effects on intellectual, psychological, emotional, spiritual, cultural and creative faculties. Martinez<sup>31</sup> illustrates how ancient languages define landscape and wilderness as etymologically linked to terms for health, wholeness and liveliness. Thus, landscape beauty may have a ‘restorative’ effect—for instance, Fredrickson and Anderson<sup>32</sup> consider how beauty can provide personal benefits such as improved health, psychological well-being and an improved self-image. Similarly, Williams and Harvey<sup>33</sup> identify ‘psychodynamic’ properties where people derive spiritual power from natural features and a sense of place and familiarity with a favourite spot, often combined with the performance of activities and rituals in beautiful areas that have personal meaning. Purcell *et al.*<sup>34</sup> suggest seven categories of psychologically restorative landscape values, namely, ‘being away’, ‘coherence’, ‘compatibility’, ‘fascination’, ‘scope’, ‘familiarity’ and ‘preference’. Interestingly, while these may occur in isolation, they often occur in combination in areas deemed to possess natural beauty.

There is a further argument over whether certain landscape types are intrinsically capable of evoking ‘positive’ responses in the beholder as a result of our evolution in particular environmental settings, or whether these reactions are merely culturally determined. Notably, some researchers have argued for a systematic, cross-cultural preference for landscapes that evoke our evolutionary cradle, the African savannah. Thus, Appleton<sup>35</sup> has famously related the attractiveness of landscapes to their opportunities for providing ‘prospect and refuge’, while Kaplan has linked preference to properties such as complexity, coherence, mystery and legibility.<sup>36</sup> Orians<sup>37</sup> proposed that a range of patterns, rather than individual features, were more likely to determine perceived landscape beauty. The line of enquiry that relates preference to biology and evolution is closely associated with theories of biophilia<sup>38</sup> (innate affinities between people and nature), and topophilia<sup>39</sup> (between people and place, including the cultural landscape).

While not necessarily undermining the statistical and deterministic basis of landscape preference, it is clear that societies and cultures do vary in their assessment of the

relative beauty of different landscapes. Botkin<sup>40</sup> has identified discernible changes in what people believe to be attractive over time; when confronted with natural beauty, people have also revealed their artistic sensitivity and educational background. In a similar vein, Ribe<sup>41</sup> found systematic differences between people who innately favour protected landscapes and those who see land as a basis for production. Hence, Parsons and Daniel<sup>42</sup> emphasise how scenic aesthetics can be considered superficial and socially malleable, suggesting that acquired characteristics rather than inherited ones are pre-eminent. It is also interesting to speculate, particularly in the light of current policy imperatives for a more 'inclusive' basis to countryside enjoyment, that ethnicity may also influence preference—for example, Purcell *et al.*'s<sup>43</sup> finding that Australian interviewees ranked certain hillside landscape adversely because of their cultural association with depressed rural areas, Yang and Brown's<sup>44</sup> evidence on preferential enjoyment of the Japanese landscape, Kohasaka and Flitner's<sup>45</sup> evidence on nationally variable perceptions of economic or romantic qualities attached to wooded landscapes, and Zube and Pitt's<sup>46</sup> findings regarding differential preferences for anthropogenically influenced landscapes between American ethnic groups.

In summary, therefore, it is clear that natural beauty is far from the straightforward term suggested by the legislation, lacking a precise definition or defining set of attributes. Indeed, there are sharp differences between sublime, picturesque or 'wilderness' landscapes, all of which could be deemed by some observers to epitomise natural beauty. Nevertheless, there is a strong case that beauty is explicable in terms of theories of aesthetics, and that the 'natural' world can comprise a distinct category of the 'aesthetic'. Further, there appear to be recurrent terms which are applicable to beautiful landscapes; these properties appear to be widely appreciated, both consciously and subliminally, in ways that may be experimentally confirmed.

Equally, there is a probably unresolvable debate about the relative significance of biology and culture, but both are clearly important. The influence of culture means that natural beauty will inevitably be a dynamic concept, related to a prevailing consensus on what people consider to be aesthetic and important to human well-being. Yet it is not entirely fluid, and many qualities appear to be consistently recognised across time and place. We now turn to the ways in which natural beauty has been interpreted officially, before offering our own distillation. Recognising that natural beauty is a complex



notion, we examine how it became adopted as a simple legal phrase fit to cover a variety of situations.

### **The Origins of ‘Natural Beauty’ as an Official Term**

In England and Wales, the watershed legislation which enshrined the concept of ‘natural beauty’ was The National Parks and Access to the Countryside Act 1949, which emerged following half a century of debate, lobbying and examination by official government committees. The antecedents go back much further and the term grew out of a rich tradition of appreciating the natural realm from an aesthetic point of view and promoting its protection.

While the attempts during the eighteenth century to search for an all embracing theory of landscape beauty are now recognised as somewhat crude and pompous, Appleton<sup>47</sup> suggests that they contained the germs of subsequent, more credible ideas. Importantly, the ‘cult of the Picturesque’ and, to an even greater extent, the nineteenth-century Romantic Movement (notably writers such as Wordsworth, Coleridge, Sir Walter Scott, Keats, Shelley and the Brownings, and painters such as Turner and Constable) had a seminal influence on attitudes to landscape and shaped the thinking of the early conservation movement. The preoccupation with landscape as scenery and a somewhat escapist emphasis on aesthetics, picturesque views and a Romantic construction of nature, were pre-eminent in influencing legislation.

Moves to preserve the British countryside were born in the Victorian era and, according to Bunce, reflected the tripartite interest of: the protection of nature; enjoyment of fresh air, open space and scenery; and preservation of national heritage. The nature movement spawned numerous local botanical societies and field clubs by the 1880s and a number of national bodies, including what is now the Royal Society for the Protection of Birds. Although somewhat separate from the protection of beauty, much of the early nature conservation movement was in fact motivated by the aesthetic and psychological benefits of nature. This movement was also linked to the growth of rambling as an activity and it is interesting to note that a group known as the Sunday Tramps reputedly included the historian G. M. Trevelyan (whose influence is noted below) among its leaders.

‘Natural beauty’ first appeared as a formal phrase in the legislation in the 1907 Act to establish the National Trust for Places of Historic Interest and Natural Beauty. The Act refers to the Trust's purposes as “the preservation for the benefit of the nation of lands and tenements (including buildings) of beauty or historic interest and as regards lands for the preservation ... of their natural aspect features and animal and plant life”. It thus appears to connect natural beauty with wildlife as well as with natural aspect and features, but no further definition of the term was provided. The Trust was born out of the Victorian heritage movement, which was particularly linked to the Romantic Movement and especially to the anti-industrial philosophies of William Morris and John Ruskin. For example, Morris wrote eloquently of the beauty to be found in nature and, according to Angus Taylor,<sup>48</sup> believed that “human well-being cannot be divorced from the well-being of the natural environment” and “Everything made by man's hands has a form which must be either beautiful or ugly; beautiful if it is in accord with Nature, and helps her, ugly if it is discordant with nature and thwarts her”. His writings give a clear view of beauty in nature as the antithesis of urbanisation and industrialisation. Ruskin was similarly condemnatory of industrialisation, and expressed nostalgia for the harmonious peasant culture of earlier times. These two leading thinkers had a significant influence on their contemporaries, Robert Hunter and Octavia Hill, who in 1884 initiated the idea of a trust to preserve important land and property, eventually to become the National Trust. Octavia Hill was indeed a pupil and devoted follower of Ruskin and, with her sister, established the Kyrle Society to promote ‘beauty’. She wrote an essay entitled ‘Natural Beauty as a National Asset’ arguing that access to beauty was an essential of life, like food, clothing, or shelter.<sup>49</sup> As the conservation movement established itself, and growing numbers of people were able to gain access to the countryside, rural nostalgia continued during the Edwardian period and in the inter-war years. During this period, the first planning legislation emerged, while the need for protection of rural landscapes became a pressing issue. Four leading advocates sought the appreciation and protection of rural landscapes—Vaughan Cornish, G. M. Trevelyan, Clough Williams-Ellis and Patrick Abercrombie—and all were linked, notably through the emergence of what would eventually become the Campaign to Protect Rural England and its equivalents in Wales and Scotland. Further, they played important roles in shaping the agenda for countryside preservation and National Parks up to and after the Second World War. They were involved in giving evidence to or sitting on the various official committees established and it seems clear that their views

were influential: the legislative roots of ‘natural beauty’ must, to a considerable degree, reflect their ideas and beliefs.

Vaughan Cornish (1862 – 1948) was a geographer who in 1920 attended an address by Sir Francis Young Husband, the explorer, who made a plea for geographers to turn their attention to serious consideration of the beauty of natural scenery. Thus inspired, he wrote a string of books and papers and campaigned for the preservation of fine landscape, often reflecting his own experiences – his book *Beauties of Scenery*,<sup>50</sup> for example, is a personal reflection about the nature of natural beauty in the British Isles. G. M. Trevelyan (1876 – 1962) can perhaps be most closely linked with the use of the phrase natural beauty in the period leading up to its inclusion in legislation, and his seminal paper<sup>51</sup> remarked on the relationship between the increasingly conscious appreciation of natural beauty and its dwindling supply. He saw the natural beauty of the countryside as the inspirer and nourisher of science, religion, poetry and art, and urged its preservation in sufficient quantity to satisfy the thirst of the town dweller's soul. The architect Clough Williams-Ellis (1883 – 1978) was a leading figure in campaigns against the encroachment of development into the countryside, famously describing the tentacles of urban sprawl in ‘England and the Octopus’.<sup>52</sup> He also brought together concerns about the effects of developments on other parts of Britain in his editing of ‘Britain and the Beast’. Patrick Abercrombie (1879 – 1957) was an early town and country planner who, among other things, solicited support for the creation of a broad coalition to advance the cause of the countryside, which led to the creation of the Council for the Protection of Rural England (CPRE), of which Abercrombie was the first Honorary Secretary, followed two years later by the establishment of the Council for the Protection of Rural Wales (CPRW). In his planning work in the 1930s he introduced the ‘Abercrombian Landscape Survey’ method, marking a more professionally focused departure from the personal and romanticised views of other luminaries.

The history of the National Parks and Access to the Countryside Act has been widely documented.<sup>53</sup> In 1929 a National Parks Committee was established under the Chairmanship of Christopher Addison, with terms of reference “to consider and report if it is desirable and feasible to establish one or more National Parks in Great Britain with a view to the preservation of the natural characteristics including flora and fauna, and to the improvement of recreational facilities for the people”. According to Mair and

Delafons<sup>54</sup> the committee held 28 meetings and heard evidence from 34 groups of witnesses as well as receiving written representations—interestingly, the National Trust, Abercrombie and Vaughan Cornish were among the contributors.

The Committee's report in 1931 recommended various measures for preserving the countryside and specifically reflected the wording of Vaughan Cornish in places. It favoured a system of National Reserves and Nature Sanctuaries, in order, among other things, “to safeguard areas of exceptional natural interest against disorderly development and speculation” and “to improve the means of access for pedestrians to areas of natural beauty”. There are perhaps hints in these phrases of the later emergence of ‘outstanding natural beauty’ in the legislation. No action was taken in response to the Addison report, but as a result of their lobbying of the Committee, CPRE and CPRW together set up a ‘Standing Committee on National Parks’ of which Abercrombie was a member and which also included, among others, the National Trust. Trevelyan had been actively promoting the cause of the Trust, for example in a paper entitled ‘Must England's Beauty Perish’ produced in 1926. In 1938 he turned his hand to National Parks and, in the foreword to the Standing Committee's pamphlet ‘The Case for National Parks in Great Britain’,<sup>55</sup> he wrote of ‘regions where young and old can enjoy the sight of unspoiled nature ... without vision the people perish and without sight of the beauty of nature the spiritual power of the British people will be atrophied’.

The report of the Scott Committee on ‘Land Utilisation in Rural Areas’, 1942, included an observation that the establishment of National Parks was long overdue. The report reflected on the countryside's close relationship with agriculture, observing that:

the landscape of England and Wales is a striking example of the interdependence between the satisfaction of man's material wants and the creation of beauty ... Its present appearance is not by any means entirely the work of nature ... The land of Britain should be both useful and beautiful and that the two aims are in no sense incompatible ... it must be farmed if it is to retain these features which give it distinctive charm and character.

The Dower Report, published in 1945, was another vital step towards the legislation for National Parks. John Dower, related by marriage to the Trevelyan family, had been an advocate for National Parks throughout the 1930s and acted as drafting secretary for the ‘Standing Committee on National Parks’ paper on the case for National Parks. The Scott

report emerged soon after he started this work and Dower was then asked to broaden his work to complete a much longer report on National Parks by November 1943. In his final report Dower defined the meaning of a National Park for Britain as:

an extensive area of beautiful and relatively wild country in which, for the nation's benefit and by appropriate National decision and action, (i) the characteristic landscape beauty is strictly preserved ...

Dower's phrase 'characteristic landscape beauty' betrays the influence of the lobbying over the years by people like Trevelyan (beauty) and Cornish and Abercrombie (landscape character). Shortly afterwards, the Hobhouse Committee was appointed as part of the efforts directed towards post-war reconstruction. Many of its members had been on the Standing Committee, including Clough Williams-Ellis. The committee proposed 12 National Parks as well as a larger group of 'second order' conservation areas of high-value landscapes and habitats (subsequently 'Areas of Outstanding Natural Beauty'), whose designation as 'areas of high landscape quality, scientific interest and recreational value' was seen as an essential corollary to the National Park proposals.

When the Act received Royal Assent in 1949, Section 5(1) set out the purposes of National Parks as including "the preservation of the natural beauty of an area", which Section 114(2) qualified by stating the "references in this act to the preservation of the natural beauty of an area shall be construed as including references to the preservation of the characteristic natural features, flora and fauna thereof". This was amended in 1968 to 'its flora, fauna and geological and physiographical features' and in addition the word 'preservation' was replaced by 'conservation'. Over the years Section 114(2) has been interpreted as a partial definition of the meaning of 'natural beauty', in the sense that it makes clear that 'natural beauty' includes these considerations, but is not restricted to them. Section 5(2) related to the designation criteria for National Parks, similarly referring to 'natural beauty'—however, as noted later, it is unclear whether s114(2) can be construed as relating to designation criteria, or only to planning and management purposes.

There is little evidence to indicate how the final phrasing of the 1949 National Parks and Access to the Countryside Act came into being. Cherry<sup>56</sup> describes how a Secretary to the Ministry of Town and Country Planning in 1948 wrote an internal note about the

then Minister's predilection for a National Commission to be established with responsibility for 'areas of natural beauty'. By the time that the Act received Royal Assent in December 1949 'natural beauty' had become the preferred phrase to express these ideas. Several other phrases had been used to convey the idea of important landscapes, for example, features of particular landscape importance or landscape value and rural areas of remarkable landscape beauty (Abercrombie) landscape character and landscape pattern (Scott), characteristic landscape beauty (Dower), high landscape quality (Hobhouse) and high scenic value (Minister of Town and Country Planning). Despite this 'natural beauty' prevailed, for reasons which are not apparently disclosed anywhere, yet which can be taken as shorthand for all these other concepts. It also of course had resonance with the existing National Trust legislation, which may have influenced those drafting the legislation.

'Natural beauty' has continued to be the accepted official phrase to encapsulate ideas about the value and importance of landscape, and is now found in legislation that amends or adds to the National Parks and Access to the Countryside Act, notably the Countryside Act 1968 and the Environment Act 1995, as well as in the Agriculture Act 1986 and the accompanying EC regulation relating to Environmentally Sensitive Areas, the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way Act 2000. Despite its widespread use in legislation it has never been formally defined even though many over the years have found it a clumsy and unhelpful phrase. While the early legislators presumably felt its meaning to be self-evident, in practice it contains many latent tensions, not least that of deciding the point at which a landscape, however attractive, ceases to be 'natural' by virtue of the intensity of human settlement and land use. The next section considers how the term has been elaborated and contested as it has been applied in different contexts.

### **The Concept Evolves: Policies, Practices and Public Inquiries**

The original 10 National Parks in England and Wales were formally designated between 1951 and 1957 and the first tranche of 33 AONBs were confirmed for designation by 1976. The first official review of the National Parks, the Sandford review, which took place in 1974<sup>57</sup> had little to say about the definition or interpretation of 'natural beauty' but did establish the primacy of the 'natural beauty' purpose. Four years later the Countryside Commission<sup>58</sup> appointed Kenneth Himsworth to undertake its first review

of AONBs. His report, published in 1980,<sup>59</sup> similarly addressed the balance between the different purposes of designation and noted that the 1949 Act provided “no guidance as to the calibration of ‘outstandingness’ in the quality of natural beauty” nor did it comment on the interpretation of natural beauty itself. Himsworth did, however, note that “AONBs come in all shapes and sizes ... there is no single character”.

In a signal departure from the vagueness of terminology surrounding criteria for selection and definition of national parks and AONBs, the Countryside Commission in 1979 appointed consultants to carry out a study of the Kent Downs AONB<sup>60</sup> which considered, *inter alia*, the meaning by outstanding natural beauty and the requisite qualities to make a landscape outstanding. In addressing these issues it emphasised ‘characteristic’ features, such as the abundance and integration of the distinctive elements, richness and unity, important influences of variable factors such as season and weather, the sweeping and rounded form of the land, and the human scale of the landscape. In addition, the study makes particular reference to links between contemporary perceptions of the landscape and the paintings of Samuel Palmer who is closely associated with the Kent Downs landscape, particularly the area of the Darent Valley. This approach to extensive description of the character and special qualities of landscape, including detailed reference to how they have been recognised in the work of artists and writers, came to the fore in the 1980s, perhaps as a reaction against the emphasis on quantitative approaches during the 1970s. In 1984 the new approach found clear expression in a report on the New Forest Landscape which set out the value of the area from a landscape perspective, to balance the longstanding emphasis on its national and international significance for wildlife and nature conservation.<sup>61</sup> It notes how, even 100 years earlier, evidence to the House of Commons Select Committee had made reference to the beauty and varied character of the New Forest and its great national value—“an object of value as great as exists in any work of art, although the New Forest is one of nature”.

A further influence was the production of guidance for the National Park Authorities on the implementation of Section 3 of the Wildlife and Countryside (Amendment) Act 1985 which amended Section 43 of the Wildlife and Countryside Act 1981. These sections required the National Park authorities to produce a map of particular types of land (mountain, moor and heath in 1981, with woodland, down, cliff and foreshore added in 1985) “whose natural beauty it is, in the opinion of the authority, particularly

important to conserve”. The accompanying guidance<sup>62</sup> considered a number of different aspects of the meaning of ‘natural beauty’ relating these to ‘pleasure to the senses’, and noting that ‘natural’ did not preclude human agency:

it is not inconsistent with the concept of natural beauty to include such landscape elements as designed parklands, archaeological features, fields bounded by walls and even buildings where they are intrinsic elements in the wider landscape.

While accepting the primary importance of visual qualities, the guidelines also recognised that people react to landscape through sounds, smells, taste and touch. Thus, ‘natural beauty’ arose from a combination of a series of complex and varied factors including physiography (e.g. geology, ecological habitats), associations (historical and cultural), aesthetics (visual and other senses), status relative to other areas (degree of rarity or typicality), feelings evoked in the observer, and public accessibility. This inclusive definition is significant because it reflects an explicit statement about what the Commission saw as being valuable in terms of ‘natural beauty’ within a public statutory document.

A second review of National Parks, under the chairmanship of Professor Ron Edwards, reported in 1991<sup>63</sup> that the purposes set out in the original legislation for National Parks were in need of revision. They reasoned that “the National Parks embrace much more than the conservation of fine scenery; wildlife, archaeological features, the man made heritage and other cultural qualities are also essential elements of their special quality”. As a result they recommended that the first purpose of National Parks, of “preserving and enhancing the natural beauty of the areas” should be re-defined as “to protect, maintain and enhance the scenic beauty, natural systems and landforms, and the wildlife and cultural heritage of the area”. This might imply a desire both to update and to clarify the meaning of ‘natural beauty’ by indicating the full breadth of meaning that it encompassed in modern usage in the 1990s. It is interesting to note that the Panel proposed this detailed change to the first purpose but did not at the same time suggest any change to the qualifying Section 114(2). The recommendations of the Panel were partly reflected in the changes to National Park purposes set out in the Environment Act (1995) where the first purpose is re-stated as “conserving and enhancing the natural beauty, wildlife and cultural heritage of the areas ...”. Instead of replacing ‘natural beauty’ with a broader phrase the Act retained ‘natural beauty’ in the National Park



purposes, but added the duty of conservation and enhancement of wildlife and cultural heritage. There was no change to Section 5(2) defining the criteria for designation. “Natural beauty” therefore remained undefined, but still qualified by Section 114(2) indicating that in references in the Act to the preservation, or the conservation of the ‘natural beauty’ of an area ‘natural beauty’ includes, but is not confined to, flora and fauna and geological and physiographical features.

At this time the former Department of the Environment also published a circular<sup>64</sup> which defined National Parks as:

areas of exceptional natural beauty (containing) important wildlife species and habitats ... But the Parks are also living and working landscapes and over the centuries their natural beauty has been moulded by the influence of human activity. Their character is reflected in local traditions which have influenced farming and other land management practices. It is also reflected in the local building material and vernacular style, monuments and landscapes, often of archaeological or historical significance, and in the words, customs, crafts and art which mark the individual characteristics of each Park.

Arguably, this could be taken as confirmation of a broader view of the meaning of ‘natural beauty’ in that the comments about wildlife, the influence of human activity, management practices and historical aspects can be read as qualifications of the first statements about ‘exceptional natural beauty’.

It is clear that there has been a gradual clarification of what ‘natural beauty’ means when applied to valued or designated landscapes. ‘Landscape’ and ‘character’ are starting to be recognised as closely related but nonetheless different terms, and there is a growing acknowledgement of the difficulty of applying universal rules of aesthetic appeal in a meaningful way. Character is emerging clearly as the basis for describing the special qualities of individual landscapes and beauty is being interpreted as an expression of landscape quality, related to particular characteristics of different areas, and of the values that are attached to different landscapes, aided by a historical perspective of the ways that artists and writers have responded to them over the years.

These emerging conceptions were vigorously tested in the first legal examination which touched on the meaning of ‘natural beauty’, namely, the 1985 Public Inquiry into the

designation of the North Pennines AONB in England. In his opening address to the inquiry, the Countryside Commission's QC argued that from a legal standpoint 'beauty' must be "construed subject to Section 114(2)". This section amplified natural beauty by reference to flora, fauna, geological and physiographic features, and thus it was argued that "such features, if worthy of preservation (which may be because of their scientific interest rather than aesthetic quality) are to be treated as included within the concept of beauty". The QC was clear that the list of 'features' is not intended to limit the definition of natural beauty to these aspects but rather to extend the meaning—that is, to ensure inclusion of things which might otherwise have been excluded. Since neither the Inspector nor the Minister disagreed with his interpretation, it must be presumed to have a degree of official sanction:

'Natural' in the context means therefore no more than 'not artificial'. Sometimes man has laboured to create beauty [through works] of 'artistic' or 'architectural' beauty. The phrase 'natural' beauty is merely used in contrast to such examples. It does not exclude beauty in which man has had a hand, or which arises as a by-product of or survives man's activities; only beauty which is the deliberate creation of man. The effects of S114(2) adds to it, not only natural features worthy of conservation even if not beautiful but also artificial creations out of growing things such for example as a landscaped park. Thus it is not inconsistent with the concept of natural beauty to include fields bounded by man-made walls, although the use of local material may be essential if that is not to disturb the natural beauty. No more is it inconsistent to view settlements and villages, of such quality at least as not to disturb the beauty of the area, as part of its natural beauty.

The key evidence dealing with the policy framework for AONB designation and interpretation of their purposes and the criteria for designation was provided by the Countryside Commission's Director,<sup>65</sup> who observed:

Though the statute speaks of 'outstanding natural beauty', in practice this means outstanding landscape quality. This is because there are few, if any, areas of England and Wales, which are entirely natural ...

This evidence is amplified by reference to the factors that Countryside Commission staff considered when judging 'natural beauty' or landscape quality, namely, relative relief, landscape shape, natural quality (or wildness), semi-natural vegetation, dramatic

contrasts, remoteness, unspoiled quality, continuity and extent, harmony of the works of man and nature, and vernacular architecture.

In his report following the Inquiry<sup>66</sup> the Inspector wrote “in considering the ‘central issue’, the Assessor and I agree with the Commission that natural beauty is in practice best interpreted in the context of a proposed AONB as landscape quality” and in his findings of fact he noted that “the quality of the landscape of the area is both natural and man-made”. This provides the first clear evidence of landscape quality being used in practice in place of natural beauty, albeit there is no attempt to clarify what landscape itself means, nor indeed quality. The Secretary of State in his decision letter accepted the Inspector’s conclusions and recommendations and expressed the view that ‘assessment of landscape quality necessarily involves a subjective assessment and that within the consensus of informed opinion allied with the trained eye, and commonsense, the matter is one of aesthetic taste’. This has been an important statement in subsequent considerations of ‘natural beauty’.

The findings of this public inquiry resonated strongly with emerging interpretations of landscape as an environmental system which can be described in terms of its character and mapped as a geographical unit. In particular, it gave considerable impetus to the need for statutory organisations to be more explicit in their identification and treatment of special landscapes. Thus, having rejected statistical approaches to landscape classification and evaluation, the Countryside Commission facilitated the development of more qualitative methods,<sup>67</sup> which began to consolidate the view that the analysis, description and classification of landscape character had to be considered separately from the steps of evaluation or other forms of judgement. These views were reflected in the Commission’s work to prepare its own internal guidance for staff on approaches to landscape assessment, later published for a wider audience,<sup>68</sup> and subsequently elaborated into the method of Landscape Character Assessment.

In further recognition of the need to be much more explicit about what ‘natural beauty’ means in practice, the Countryside Commission set about commissioning and publishing landscape assessments of all the proposed and designated AONBs. These assessments were designed to provide a statement about why each of the areas was considered important in terms of its landscape character and quality. Emerging wisdom was confirmed in the first of these publications, whose preface concluded that, while the

determination of natural beauty should primarily reflect visual quality, geology, topography, flora and fauna, historical and cultural aspects were also relevant. The study proceeds to address this question through a process of “informed opinion, the trained eye, and common sense” as recommended by the Countryside Commission's Landscape Assessment guidance, which in turn reflected the conclusion of the North Pennines inquiry.

In 2000, work commenced to designate two new National Parks in England, the New Forest and the South Downs. Both proposals were subject to Public Inquiries, in anticipation of which the former Countryside Agency produced a series of papers between 1999 and 2002 reviewing the application of the criteria for National Park designation.<sup>69</sup> Landscape Character Assessment and guidance on its application played an important part in both inquiries.

The Inspector at the New Forest inquiry was assisted by a specialist Landscape Assessor who advised on the issues relating to the ‘natural beauty’ criterion. The Assessor reviewed the legislation, the ‘natural beauty’ criterion and the way the Countryside Agency had applied it in relation to the New Forest and the definition of its boundary.<sup>70</sup> A key consideration in defining the boundary for this area was the use of a broad definition of ‘natural beauty’ which included “flora, fauna, geological and physiographic features, and elements arising from human influences on the landscape, including archaeological, historical, cultural, architectural and vernacular features”. Interpretation of the ‘natural beauty’ criterion was in this case heavily based upon a Landscape Character Assessment conducted in 1991 which identified and mapped landscape types which possessed a common identity recognisable as the New Forest landscape.<sup>71</sup> The Landscape Assessor supported the view that the primary consideration of natural beauty was the presence of outstanding landscape quality reflected through the presence of intact and distinctive New Forest landscape character, with an absence of atypical or incongruous features. She stated:

all the landscapes of England are heavily influenced by human activity. Bearing that in mind, natural beauty as defined in Section 114(2) of the Act cannot imply pristine or completely natural landscapes or there would be no land in England that could meet the Natural Beauty criterion. The terms of the Act must therefore require a high degree of ‘relative naturalness’ accepting that the cultural influences on the landscape should

be taken into account ...<sup>72</sup> The main issue of contention was the degree to which weight should be attached to factors such as history, cultural associations, considerations relating to use of the land for common grazing, archaeology and nature conservation interests, even where these were unrelated to landscape beauty. The assessor felt that the weight to be attached to such matters needed to be carefully considered if they were not to be given undue attention in reaching judgements on natural beauty. This raised the difficult legal question of whether the qualifying statement about the definition of natural beauty in Section 114(2) relates only to the statutory purposes of designation set out in Section 5(1) or also to the designation criteria in Section 5(2) where ‘natural beauty’ is unqualified.

Following confirmation of the New Forest National Park boundary in March 2005, Meyrick Estate Management Limited and others appealed to the High Court against the inclusion of Hinton Park within the area. The High Court Judge, Mr Justice Sullivan, found in favour of the claimants. There were several grounds for the claim, but among them the claimants argued that the defendant (the Secretary of State) had erred in the law:

In not applying the statutory test in paragraph (a) of subsection 5(2) ‘natural beauty’, but the extended definition applicable under section 114(2) only to the management of National Parks under subsection 5(1) once they had been designated under subsection 5(2).

The landscape consultant for the claimants commented that:

The Countryside Agency's revised approach to boundary making is to include areas of historical value. This is misguided as marginal areas are inappropriately included based on a flawed understanding of natural beauty.

This argument was strongly contested at the inquiry by the Countryside Agency who argued that:

Guidance and precedent clearly indicate that historical, cultural, architectural and vernacular features form part of natural beauty ... That is why landscape, ecological, historical and cultural considerations i.e. commoning, were each considered in turn in Section 3 and 5 of the ‘New Forest National Park Boundary Study’ ... All of these

factors (i.e. landscape; ecological; historical and cultural) were assessed as part of the ‘natural beauty’ criterion ...

In weighing up the balance of arguments, the Judge did not accept the Agency's case relating to the application and meaning of section 114(2), suggesting that the extended meaning of ‘natural beauty’ is related to possible conflicts which may arise from the different purposes of designation such as those between recreation pressure and the protection of rare flora. The Judge criticised the conclusions of both the Landscape Assessor and the Inspector, concluding that:

in some contexts ‘natural’ might simply mean rural, as opposed to urban, but ‘natural beauty’ has to be understood in the context of section 5 which is concerned with the designation of ‘extensive tracts of country’ which have the particular quality of natural beauty (whereas) ‘well maintained’ historic parkland providing the setting for a Grade I listed building, and ‘well ordered’ dairy fields of dairy farms would seem to be the antithesis of naturalness. In such landscapes man has very obviously and deliberately tamed nature.

The Judge considered that “the Assessor and the Inspector's approach effectively discarded the requirement for a high degree of relative naturalness and substituted a test of ‘visual attractiveness’ or ‘landscape quality’”.

In moving towards his conclusion the Judge noted that the issue of proper application of section 114(2) was “not the determining issue”. Instead he turned to the fact that the Agency was contending that a broader range of factors, including, for example, historical and cultural factors, could be taken into consideration in deciding whether the ‘natural beauty’ criterion was met. He concluded that:

While such factors were relevant (as the Assessor said) to an understanding of how a particular tract of countryside had evolved to its present state, they were not relevant when it came to deciding whether it possessed the necessary quality of natural beauty so as to justify designation as a National Park.

This ruling therefore took a narrow view of ‘natural beauty’, bringing into question much of the subsequent evolution of its interpretation in policy and precedent.

The Department for Environment, Food and Rural Affairs (DEFRA), representing the interests of the Agencies involved in the original case, contested the High Court Ruling but in 2007 the Court of Appeal upheld the decision, although its reasons related to whether opportunities for open air recreation existed and it was of little help in reaching a firm view of the correct legal interpretation of natural beauty.

In making the original decision in the Meyrick case the High Court suggested <sup>73</sup> that legislation was needed to clarify the meaning and use of natural beauty in designating landscapes for protection, noting that:

Views as to which tracts of countryside have the quality of ‘natural beauty’ may (or may not) have changed over the last 50 years, but the ‘natural beauty’ criterion in subsection 5(2)(a) of the Act has not been changed to embrace wider considerations such as ‘cultural heritage’. If the ‘natural beauty’ criterion in subsection 5(2)(a) is to be changed to reflect 21st century approaches to countryside and leisure planning then the change must be effected by Parliament, and not by administrative action on the part of the Agency in adopting a wider range of factors for the purposes of designation.

Concerned at the implications of the High Court ruling for the ongoing Inquiry into the proposed South Downs National Park, the relevant authorities had to a degree anticipated this conclusion. Taking advantage of the imminent introduction of the Natural Environment and Rural Communities Act 2006, a new clause was added very late in the proceedings, with the intention to pre-empt any further debates about the meaning of natural beauty. This new clause provided that, when considering natural beauty, an area's wildlife and cultural heritage may be taken into account (Section 5(2A)(a)); such an area may include land which consists of or includes land used for agriculture or woodlands, or used as a park, or an area whose flora, fauna or physiographical features are partly the product of human intervention in the landscape (Section 99). It remains to be seen whether this is a sufficient basis for modern landscape protection, planning and management, such as that required under the European Landscape Convention.

### **Stakeholder Views on ‘Natural Beauty’**

It is clear that the interpretation of the term ‘natural beauty’ is not as self-evident as its originators presumed. Indeed, it is openly contested, bringing into question whether it

should be more explicitly defined or perhaps replaced altogether with an alternative expression. This question was explored with a group of stakeholders, in the form of a written consultation and a workshop. Both groups received a summary of the researchers' review and a draft re-definition, of 'natural beauty'. A number of individual expressions and convergent themes were suggested by respondents and attendees during these exercises (Table 1).

**Table 1.** Expressions and themes arising from the stakeholder consultation and stakeholder workshop

Expressions relating to natural beauty	Common themes
<ul style="list-style-type: none"> <li>● stunning, splendour, majesty, magic</li> <li>● sense of human occupation for centuries, prolonged human stewardship in its many guises</li> <li>● charming villages, natural materials</li> <li>● not just the visible – also the sound of the Welsh tongue</li> <li>● sight and sounds of wildlife and domesticated animals – red kites, grazing animals, trout, shoals</li> <li>● not regimented – random elements</li> <li>● engages all the senses, wind in your face, wetness in your feet</li> <li>● nighttime and daytime qualities (e.g. lack of light pollution)</li> <li>● unique and powerful sense of place, instantly recognisable landform</li> <li>● inspiring, challenging (survival)</li> <li>● poetry, aesthetic</li> <li>● specific places – e.g. Cadair Idris</li> <li>● diversity – rugged, rolling, sweeping</li> <li>● sitting, viewing, wondering</li> <li>● a place where conflictual development was conspicuous by its absence unique culture.</li> </ul>	<ul style="list-style-type: none"> <li>● 'response', 'experience' and 'emotion' are integral to 'beauty'</li> <li>● 'natural' includes a combination of human occupation and natural environment, and a sense of culture and history</li> <li>● the language contributes to uniqueness and sense of place</li> <li>● a feeling that natural beauty is related to 'importance' and 'specialness' of place</li> <li>● the need increasingly to recognise 'landscape' as a key term</li> <li>● the significance of intangible qualities such as tranquillity, remoteness, sense of freedom, inspiration, 'magic'</li> <li>● the importance of 'diversity' of attributes and 'combination' of qualities</li> <li>● whilst natural beauty transcends individual responses, it is influenced by what the individual brings to it or derives from it</li> <li>● natural beauty is widespread, but designated areas need to have it in 'outstanding' degree.</li> </ul>

A recurrent theme was the intangibility of natural beauty and hence the need to ensure that it reflected non-quantifiable and emotional qualities, which often could not be precisely defined or specified. Not being a purely objective quality possessed by the land, it was seen to relate to the capacity of land and water to evince emotional



responses. It was seen as a fluid concept, as cultural evolution leads to changes in what is recognised as being beautiful. It is also a multi-sensory quality—not purely visual—and thus properties such as tranquillity and sense of freedom contribute to the human response. It could also have a ‘spiritual’ quality, given the historical association between ‘re-creation’ and inspiring places. Some respondents were concerned that too formulaic a definition might trivialise some of these profound qualities.

Respondents felt that natural beauty did not need to be restricted to areas which were either extensive or wholly free from industrialisation. On the one hand, society is increasingly prepared to recognise the beauty associated with urbanisation and industry, even where the landscape scars have only recently started to heal. On the other, ‘unspoilt’ natural beauty was often to be found in quite small areas, whereas legislation and past practice tended to equate it with the grand scale. These smaller enclaves were often close to large settlements and thus valued by many people and so it was important to have a definition which allowed acknowledgement of natural beauty wherever it occurred.

While respondents tended to describe natural beauty in ‘universal’ terms rather than place-specific ones, there were some allusions to particular associations with the Welsh language and culture. For example, it was noted that the difference in language is closely related to the understanding of place. The Welsh language includes helpful terms such as *tirlun* for the ‘visual’ qualities of landscape and *tirwedd* for a richer view reflecting wider associations, while the notion of *hiraeth* reflects people's yearning for places they cherish. Further, the time-depth of landscape was considered to a very important contributor to what is perceived as beautiful, and in Wales this has been reflected in a Register of Historic Landscapes.<sup>74</sup> The continued usefulness of natural beauty as a concept caused some division of opinion. A significant minority suggested that the term was outmoded and needed to be replaced: first, it was felt that human use had shaped the environment for so long that the notion of ‘natural’ was misleading; and second, beauty is a category of the aesthetic, and thus some people saw it as an inappropriate subject for legislation. The terms natural and beauty were felt to be unclear and disingenuous, both individually and in combination, and could usefully be replaced by a new term. Most respondents, however, were in favour of retaining the concept, mainly for pragmatic reasons, albeit with a deeper support for the term's intrinsic meaning. Both the supporters and opponents of the term were keen to pursue

the use of new terms, either as supplements to or replacements of natural beauty—these included fine scenery, high quality rural landscape, special landscape, natural and cultural heritage (qua Scottish national parks), and relative naturalness (in a small and crowded country with strong anthropogenic influence).

Some were particularly keen to see harmonisation with international terminology, particularly with IUCN Category V Protected Landscapes, the World Heritage Convention and the European Landscape Convention. There was a feeling that most people understood ‘natural’ as being where human control is ‘relaxed’, making it easier to see that landscapes are still shaped by elemental forces of nature such as weather, tides, seasons, gravity, soils, geology and water.

A common view was that natural beauty remained a useful concept provided it was elaborated through criteria based on positive contributors and negative detractors. Some respondents sought criteria that were primarily visual, reflecting the essential aesthetic and perceptual qualities of beauty; authenticity was similarly mentioned. This view was closely related to emergent properties such as tranquillity, relative lack of pollution, wildness, relative naturalness, integrity and associations. Others sought scientific criteria, reflecting legal references to flora, fauna, geology and physiography. One interesting and strongly made viewpoint was that accessibility was a key criterion. Given that beauty has to be seen to be appreciated, then it is axiomatic that people should be able to view it at first hand. However, some respondents were keen not to introduce criteria, feeling that this would detract from the transcendental and indefinable qualities that were most precious. Further, society is constantly redefining its attitudes about things that it deems to be beautiful, and thus quantifying and specifying such a fluid notion could prove a contradiction in terms. One strongly expressed viewpoint by a number of respondents was that natural beauty is a ‘democratic’ concept and possesses an aesthetic which relies on the observer's response—thus, it was important to ask the public what it considered to be beautiful.

Clearer definition of the term was felt to be important for a number of reasons: the need for a legally robust definition, especially in the post-Meyrick context; generating an improved understanding of the role of National Parks; providing a clear thread between the European Landscape Convention and domestic practice; interpreting 1940s legislation in a modern way that reflected evolution of thinking about landscape; and

ensuring that the term was not ‘overloaded’ by expecting it to apply to all manner of situations inside and outside national parks. A common view was that a definition of natural beauty should strike a balance between having a popular currency and *yet also* being fit for legal purpose. Subsequent reflection and discussion emphasised the importance of defining ‘natural beauty’ rather than ‘outstanding natural beauty’. Many parts of the country may thus be considered to possess a degree of natural beauty—however, some places could display this quality to an outstanding degree, and so may be worthy of special designation. Criteria that workshop members thought might be taken into account in defining natural beauty are summarised in Table 2.

**Table 2. Criteria that can be taken into account in defining landscape value/natural beauty**

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Scenic quality, in terms of the aesthetic aspects of character and a consensus of opinion about the beauty of the landscape, among both experts and the public;

- Sense of place, in terms of unity and distinctiveness of landscape character;
  - Landscape quality, in terms of the intactness of the landscape and its condition, in so far as this helps to deliver distinctiveness of landscape character in a particular locality;
  - Integrity, in terms of intact rural character and general lack of large-scale, visually intrusive or otherwise inharmonious development;
  - Perceptual qualities which make a particular contribution to sense of place, including wildness and tranquillity;
  - Important associations of the landscape with people, places or events;
  - Evidence of importance through expressions or descriptions of the landscape in art, literature, music and other art forms, through language and folklore, and through modern media;
  - Rarity or representativeness, either of the landscape as a whole, or of individual elements and features within it;
  - Conservation interest, through the presence of features of particular wildlife, earth science or archaeological, historical and cultural interest which add value to the landscape as well as having conservation value in their own right.
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## Conclusion

The foregoing account has analysed the continuing relevance of natural beauty as a legal term underlying the safeguard of protected landscapes in the UK, particularly England and Wales. During the eighteenth and nineteenth centuries, there is evidence of a progressive consensus that ‘nature’—rather than being associated with hazard and privation—could be treated as a category of the aesthetic alongside human form and artefacts. For various reasons, this view became enshrined in a particular bureaucratic and legislative movement. Even though it is clear that successive guidance and professional judgement has drawn upon an increasingly sophisticated view of

‘landscape’, and despite the apparent vulnerability of the term to legal challenge, natural beauty is still widely considered to be ‘fit for purpose’ as a basis for designating and managing protected areas. However, it is a somewhat archaic term which clearly needs qualification and clarification.

Taking account of the various sources of evidence and opinions, we suggest that the following attributes relate to a modern understanding of natural beauty:

natural beauty relates, first and foremost, to unspoilt rural areas free from large-scale settlements or industry;

natural beauty does not apply only to landscape where nature may appear to dominate, but includes rural landscapes which have been shaped by human activities, including, for example farmland, fields and field boundaries, designed parkland, small settlements, larger villages and small towns, provided that they are integral to and in keeping with, the character of the landscape. Traces of industrialisation may not always be incompatible with, and may sometimes be complementary to, beauty;

natural beauty is a broad concept that is concerned with ‘landscape’, which is now itself inclusively defined as: the interaction between the physical (geology, landform, air and climate), natural (soils, flora and fauna), and cultural/social (land use, enclosure, settlement) components of our environment; and the way this is perceived by people visually, in terms of aesthetic aspects like colour, form, texture and pattern, and through other senses, and also through perceptions and preferences, which are affected by people's cultural backgrounds and interests;

natural beauty is related to landscape character, in that it will find expression in areas of landscape which have a degree of unity and distinctiveness in character and a strong sense of place. Landscape character is, however, found everywhere whereas natural beauty is found in valued landscapes;

in the nineteenth and the first half of the twentieth centuries, when landscape was still viewed largely as a static scene or picture, natural beauty was used mainly to reflect the value attached to the aesthetic and scenic aspects of landscape. The aesthetic values attached to landscape, though still important, are only one of the reasons why landscape is now valued;

natural beauty is about landscape value and thus draws upon the different reasons why society may attach value to particular areas.

These are increasingly established through recurrently used criteria (Table 2). Not all of these criteria need be met for an area to possess natural beauty; however, where many of them coincide spatially, that area may be considered to possess 'outstanding' natural beauty.

In the context of 'protected landscapes/seascapes', we conclude that natural beauty relates, first and foremost, to unspoiled rural areas, relatively free from the effects of urbanisation and industrialisation. It does not apply only to landscape where nature may appear to dominate but includes rural landscapes which have been shaped by human activities, including, for example, farmland, fields and field boundaries, designed parkland, small settlements, larger villages and small towns, provided that they are integral to, and in keeping with, the character of the 'landscape'. Overall, therefore, it appears that the concept of natural beauty retains a contemporary meaning distinct from the evolving use of 'landscape' and continues to have legal and policy relevance.

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### **Introduction**

This paper is about the type of landscape that might emerge as society finally grasps the nettle of dramatically reducing its energy profligacy and dependence on fossil fuels. It explores two main aspects, namely: the types of physical landscape change that might arise throughout the lifecycles of new energy technologies; and the level to which such changes may or may not be deemed acceptable. It acknowledges that there is likely to be a dynamic relationship between these two aspects.

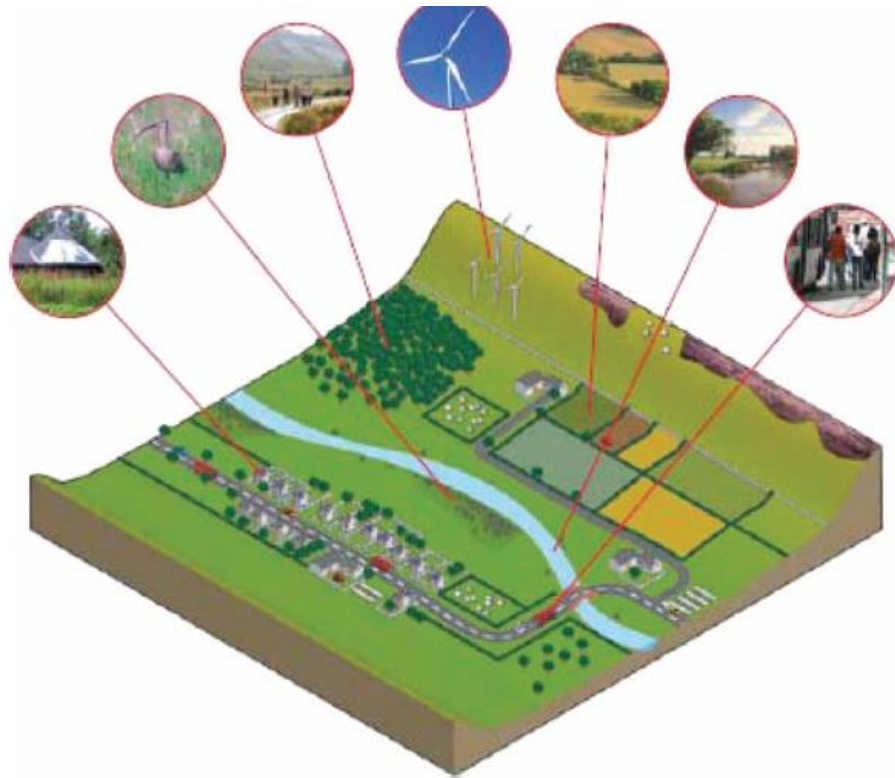
As has been noted elsewhere (Bird Life International, 2005), new technologies of energy production must be combined with measures to increase energy efficiency and curb energy demand in a context of coherent policies to tackle climate change. Hence, this paper considers the shift towards carbon-neutral approaches generally, and not just modes of energy production. ‘Carbon neutrality’ is potentially a confusing term, as some of the technologies specifically involve carbon accumulation through biomass production, but it commonly refers to radically reduced consumption of fossil carbon and emission of greenhouse gases, to the extent that human habitats could even become energy sinks (Forum for the Future, 2008). Such a transformation implies three things: minimizing the use of fossil carbon in energy production; reducing our use of carbon-based energy in traffic movements, construction, manufacture and, not least, energy utilities and transmission networks themselves; and offsetting carbon footprints through planting sufficient biomass (usually trees) to neutralize residual CO<sub>2</sub> emissions. Many of these shifts are capable of producing visual controversy as well as associative landscape objections such as loss of tranquillity and disruption to bird flight.

It is widely acknowledged that, in order to make any significant dent into the problem of global warming, changes to energy production and use need to be on a massive scale: substantial landscape transformation will be almost inevitable. Landscape change often proves controversial, as familiar and often cherished scenery is disrupted by new technologies and their ramifications. Paradoxically, as we pursue carbon-neutral living,

it is possible that landscape and energy arguments will be pitched against each other, both in the name of sustainability.

This poses a major potential problem. There is perhaps a cosy and naive assumption that the pursuit of sustainability and low-impact living will be visually benign and readily embraced. Unfortunately, this is unlikely to be the case as energy is so fundamental to liveability and work that it invariably proves a transformative landscape driver in both obvious and subtle ways. Figure 1 gives an idealized indication of an imaginary, but credible, future cultural landscape in which fossil fuel is used parsimoniously. As will become clear from the following discussion, all of its elements—not only those associated with electricity production—are affected by strategies for carbon neutrality.

Yet it is possible that landscape tastes will prove dynamic, so that new energy landscapes will gain social approval if viewers are able to infer from their visual cues a collective quest for sustainability. This implies that tastes, values and preferences for landscape can change over time, and that they in some way draw upon underlying stories or narratives. The contrary view is that landscape tastes are hard-wired within us, deriving from the brain's ability to perceive affordances in evolutionary environments; at the other extreme is the phenomenological claim that landscape preferences are cultural rather than biological. The balance of probability is that both factors are at play: Bourassa's (1991) quadripartite explanation provides insight into the possible determinants, namely, a prerequisite (biological) element, a culturally acquired element, a more nuanced personally acquired element, and bias and prejudice elements arising from random experiences and associations. This paper considers the lifecycle effects of energy as drivers of future cultural landscapes, and reflects on whether their changes will be opposed by society because of their sensory impact or be celebrated because viewers endorse their semiotics of sustainability.



**Figure 1.** A more sustainable future? In this scenario, conservation, adaptation and enhancement of the natural and built environment have been integrated and managed to meet society's needs and respond to forces for change, but within environmental limits. Despite accepting a considerable degree of change, sense of place in the landscape is being enhanced, biodiversity is increasing and a healthy local economy is supported.

Source: Countryside Agency (2006)<sup>3</sup>

## **The Fluidity of Landscape Tastes**

Human beings appear to appreciate landscapes for reasons of both aesthetics and familiarity. This paper particularly considers the more developed regions and their

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<sup>3</sup> The image incorporates:

- Development where a new vernacular style blends locally distinctive elements with innovative technology, such as turbines and solar cells.
- Environmental farming practices help to create and maintain a wealth of habitats for wildlife, leading to an increase in biodiversity.
- Better education and information leads to an increase in sustainable tourism, which reduces the desire for air travel and land dedicated solely to recreation.
- Society moderates its energy use and there is an increase in sustainable power sources, such as sensitively located wind-farms and micro-generation.
- Farming with an emphasis on stewardship of the environment, delivering a wide range of produce for local markets.
- Good water management and sustainable drainage systems help to mitigate extreme events of flood and drought.
- Better provision of public transport, leading to decreased road traffic and less pollution

heavily modified landscapes rather than relatively pristine areas where human impact has been minimal. It thus emphasizes places that have been profoundly altered by centuries or even millennia of occupancy, clearance, drainage, exploitation and ornament. Some of these landscapes possess a widely acknowledged beauty deriving from qualities such as scale and harmony, often having a hand-built appearance and possessing intricacy and complementarity of linear and spatial elements. For such landscapes, there appears to be an extensive and intuitive admiration, and a growing tendency to formally protect them as valued components of our heritage (Phillips, 2002). Most landscapes are unexceptional, however, and do not fall into these favoured categories, yet they may still be cherished locally. The European Landscape Convention (Council of Europe, 2000) is a staunch ally of the ordinary and quotidian. Some warts-and-all landscapes are especially highly prized by insiders and may, by virtue of association or familiarity, be fiercely defended by locals. Thus, ‘eyesores’ such as the recently demolished cooling towers at Tinsley (Sheffield), ‘Wigan Alps’ (coal shale tips) and the Walney Channel slag bank (all in the north of England) have locally acquired an iconic landscape status. Further, some scenery which once evoked scorn is now widely acclaimed. For example, Walker and Salt (2006) note how the Florida Governor in 1906, referring to the Everglades, vowed to wring the last drop of water out of that “abominable pestilence-ridden swamp” (p. 19). Similarly, many parts of the English Fenlands are now conserved for or being restored to nature, yet former agricultural improvers’ disdain for their worthless state are reflected in John Perry’s 1724 drainage proposals to alleviate their “general distressed conditions” (Perry, 1724).

This tendency for some objects to become fashionable over time or be valued by particular groups is not limited to landscape, but applies to anything—artworks, musical compositions, buildings, furniture, etc.—that can possess aesthetic properties. Bourdieu’s writings are a particularly rich insight into why particular artefacts and modes of behaviour become fashionable—developing an ‘acquired aesthetic’—while others are deemed impolite (Bourdieu, 1984). This process of acquisition is generally quite slow, and may take a generation or two to adapt, perhaps when the hardships, shocks and injustices associated with the original context have been forgotten. We may also reflect on the likelihood that ‘polite’ values are often determined by an elite, and hence the need for measures to democratize judgments about landscape.



Thus, whilst some landscapes appear to be spontaneously and widely favoured, many are an acquired taste. Some which are loved by insiders may, in fact, be disliked or feared by outsiders who neither feel comfortable navigating them nor appreciate their special meanings. The fact that most of us cherish some unremarkable areas of landscape arises because of what they signify to us, and also because we may have learnt, formally or informally, that they are valuable. Sometimes we value landscapes because of pleasurable associations such as recreation or social activities; sometimes it may be because of memories of camaraderie during times of adversity. Thus, the notion that certain landscapes reflect ‘good taste’ derives partly from values attached to them by particular communities of place and interest. The social production of taste associated with landscape is quite slow, and preferences tend to be conservative, generally making it difficult for us to accept change.

### **Landscape and the Underlying Narrative**

A core theme of landscape research has been to understand the narratives underlying the visual canvas of scenery (Robertson & Richards, 2003). Phenomenological approaches have sought to interpret hidden meanings, stories, memories and associative values which insiders and outsiders can decode. Williams (1973) has classically analysed how images of the country have conveyed stories such as reverence, innocence, hardship, moral virtue, dispossession, industry and indolence, improvement, decay, community and wistfulness. These frequently come laden with values, constructed by influential strata of society. In a similar vein, we can suggest that certain landscapes acquire a degree of politeness, leading to moral and political endorsement. The likelihood that we subconsciously infer from a landscape more than meets the eye (Countryside Agency, 2004) is reinforced by Rogge *et al.*'s (2007) recent findings about responses to agricultural landscapes displayed by different user groups.

Carlson (2007) has developed our understanding of how environmental aesthetics can lead us to appreciate landscapes either by engagement with them through multi-sensory immersion and/or by a more cognitive understanding of them as objects of beauty. When brought together, they enable both feeling and knowing, and this can yield a very deep appreciation of the aesthetic. He suggests that landscapes which have developed organically in relation to human needs are seen as having a ‘functional fit’, in which nature and culture share a parallel necessity—the result is that such landscapes possess

an aesthetic because they 'look as they should'. In a complementary manner, Iverson Nassauer (1997) suggests that we are not only deeply attached to beautiful landscapes, but also that we strongly endorse attractive landscapes and adopt conventions for their appearance and maintenance. While the former conform to aesthetic conventions for the scenic, the latter tend to conform to aesthetic conventions for care. She argues that our care for such landscapes has often been excessively tidy and that a less manipulative and more ecologically based 'intelligent care' should be practised. This would require us to modify our aesthetic conventions so that we gave visual pre-eminence to features that reflect underlying functionality. Thus, through a more informed understanding of ecological and hydrological function, for example, we may acquire an attachment to new forms of landscape which hitherto might have been dismissed as untidy, hazardous and un-manicured. In different ways, both Carlson and Nassauer propose that landscapes which are perceived to possess 'fitness' may be deemed beautiful or attractive: there are reasonable grounds to suppose that we learn to love landscapes when we understand the cogency of their underlying narrative. In the twenty-first century a dominant storyline will relate to ecological functionality and energetic parsimony.

Cultural landscapes are essentially a palimpsest portraying traces of successive periods of occupation and transformation. Phases of landscape development are driven (Piorr, 2003; Schneeberger *et al.*, 2007) by contemporaneous economic and social processes, including an increasing ability to override environmental constraints. These transformations have affected landscapes since the Palaeolithic, but have accelerated over the past three centuries by a succession of agricultural, manufacturing and communication revolutions. Generally speaking, changes which have been relatively slow and have worked with the grain of the land by creating human-scale structures and using local materials have become accepted and valued over time, even though they may initially have met with protest. More recently, changes of great speed and magnitude have attracted opposition: drivers such as the EU Common Agricultural Policy, car dependency and low-density housing are rapidly re-writing the story of the earth's surface, sometimes disrespectfully obliterating previous landscape stories. In truth, some observers have perceived a modernist beauty in their simplicity and labour efficiency, but environmental imperatives now declare that they may achieve little more than their 15 minutes of fame.

Cultural landscapes are produced partly by natural processes and partly by human drivers, and many have derived from a ‘virtuous circle’ of endogenously driven, embedded socio-economic activity which draws upon and in turn reinforces local landscape services (Selman, 2007). A widespread problem is that the drivers which produced our distinctive heritage are increasingly obsolete, yet contemporary drivers do not seem to be creating landscapes which are intuitively pleasing or characteristically place-sensitive. The dominant drivers are typically exogenous in origin and their landscapes reflect the material representations of corporate values. Hence there is well-informed protest against loss of character and distinctiveness. The new landscapes tell only confused, mercenary or atomistic stories. In response, we often cling to an imagined past by relying on the fastidious embalming of set-pieces by the heritage industry, and bankrolling farmers to maintain obsolete landscape features, both of which may prove transient expedients.

We may need to accept the demise of some of these traditional landscapes, and their gradual absorption into the palimpsest. Resistance to their loss may, it is suggested, be partly due to an underlying sense that their modern replacement landscapes convey a narrative of profligacy, greed, north-south division and vanity. It is quite possible that we could come to accept replacement cultural landscapes that possess a modern, but coherent and edifying new narrative that is coupled to contemporary social and economic realities—akin to Carlson's ‘functional fit’. With the right combination of circumstances, we may be enabled to accept change and to value new landscapes because we can read and endorse their underlying story.

### **The Impacts of Energy**

Energy has always been a driver of landscape change, from the very earliest stages of exploiting wood fuel or harnessing the power of flowing water—even, indeed, the practices of cultivation and domestication as ways of satisfying metabolic energy needs. Yet its transformative role has often been subtle and is only inferred indirectly from gradual changes in landscape pattern. For example, the eighteenth-century agricultural improvers in England had no conception of the ways in which the functional and ornamental elements of their estates would cohere into a bocage landscape of strategic ecological significance—they were simply taking incremental steps to create local energetic efficiencies in farming regimes combined with intermittent schemes of

beautification. We are likely to have similarly profound and unintended impacts on our landscape, and we need to be aware of the cumulative visual and functional consequences of our policies and practices. Consider, for example, human ecological analyses of agricultural energetics. Bayliss-Smith's (1982) classic studies of traditional and modern farming systems included a contrast between a 460 ha farm in Wiltshire, England, in the 1820s and 1970s. In the 1970s, this yielded 2420 MJ per farm worker per day—sixty times the figure for the 1820s. However, the equivalent energy ratios were less flattering, having fallen from 14 to 2.1 due to the inefficient energy chains and reliance on artificial energy subsidies. Strikingly, the food chains linking crops, animals and humans had become highly integrated into wider systems of food production and distribution leading to additional hidden energy use. These factors hint at the systemic and pervasive ways in which energy consumption and embodiment ramify through the landscape, and how equally sweeping transformations could ensue from changes in energy availability and curbs on its use. Energy required by agricultural systems has risen much faster than food output, and it is very possible that a new and legible narrative of energy efficiency might replace that of the single-minded pursuit of labour efficiency.

We may be about to witness the landscape reorganizing itself around the energy driver, and this will have three basic expressions, namely:

energy production—for example, through biofuels, wind turbines and river regulation.

energy consumption—particularly in relation to transport and space heating/cooling, which may reflect itself in compact or linear settlements that facilitate efficient movement, and buildings that touch more lightly on the Earth.

embodied energy—the energy implicit in the lifecycle of a product or practice, for example, in our food miles or buildings.

The dominant metanarrative of the twenty-first century will be sustainability, and particularly our ability to reduce our carbon footprint. This is a story in which we can take pride and, arguably, learn to love the associated landscape transformation.

## Energy Production as a Landscape Driver

Energy production has driven the emergence of distinctive landscapes throughout history, and traditional sites of wind and water power are often important parts of heritage. It is doubtful, though, whether they would have been considered attractive in their heyday. For example, the city of Sheffield, by the mid-eighteenth century, had become the most extensive user of water power in Britain and probably Europe; while to the immediate west, in the Peak District, scores of textile, paper, wire and other mills were established. Such harnessing of kinetic energy, and its physical ramifications through the landscape, produced extensive visual and aural disruption, as well as pollution and excavation. Now, the grindstones, looms and forge-hammers have fallen silent, artefacts are preserved as heritage, and many mills which even quite recently were deemed problematic eyesores have been converted to luxury apartments. The landscape relics of energy conversion are now regarded as picturesque (Figure 2). Maskit (2007) has defined the landscape attraction of post-industrial sites as ‘interesting’ rather than necessarily possessing traditional qualities of beauty or sublimity. He particularly draws attention to Lutz’s Landschaftspark Duisburg Nord in Germany’s Ruhr Valley in this regard, where incorporation of abandoned industrial structures leads, he argues, to aesthetic engagement through a process of renovation.



**Figure 2.** Eighteenth-century industrial mill pond in the Porter Valley, Sheffield.  
© Photo: Yingjin Chen

During the nineteenth and twentieth centuries, industry became predominantly carbon based, first through coal (and some oil shale), and subsequently through oil and natural gas. In some cases the mines and their associated steam-powered mills were the cause of contemporary protest about landscape violation. Yet often this was quite muted, and the transformation of the Earth's surface was narrated as enterprising and progressive, so that societies displayed a widespread capacity to accept the smokestacks of early industrialization. The response of the wealthy was not so much to prevent the despoliation, as to migrate to the more salubrious upwind side of cities. The social climate of the twentieth century was one of brave new technologies, enabling us to electrify and industrialize the world and feed its exponentially growing population. Hydro-power was seen as economic and clean, often bringing employment to remote regions, and the grandeur and boldness of its installations sometimes deliberately mimicked the sublime. Nuclear power was seen both as a symbol of technological triumph and an emblematic use of atoms for peace. The citadels had a certain iconic status in the landscape and were not necessarily viewed as antipathetic.

It is difficult now to appreciate the degree to which large-scale landscapes have been transformed, directly or indirectly, as a consequence of their role in energy production for a rapidly evolving industrial base. Nor can we readily comprehend the mixed emotions associated with enterprise, grimness, squalor, occupational illness, decay or gentrification that have influenced our perception and acceptance or rejection of them over time. What we can reasonably state, however, is that our reactions towards energy production landscapes have derived from a mixture of taste, shock and reason, tempered by the 'good' or 'bad' morality of the underlying narrative. Acceptance of them proved ambiguous and malleable, and is susceptible to change where the associations become more positive (e.g. sustainability) or negative (e.g. nuclear hazard).

Proposals for large-scale generation facilities now routinely provoke opposition. One of the main controversial dimensions appears to be that of scale. A reason for this may be the overwhelming nature of modern installations that produce monocultural landscapes, unremitting in their single purpose and ignoring the principles of harmony and fitness. Alternatively, it may be that the technological capability to construct and generate at such large scales has occurred during a period of increased environmental awareness and highly organized conservation groups. Consequently, the narrative revealed through the landscape is read as either one of brash and insensitive hubris, or one of doomed

reliance on hazardous and unsustainable technical fixes and wasteful dissipation of power through distribution networks from centralized plants, both of which also require massive embodied energy.

Much of the literature on alternative energy landscapes has centred on wind conversion, whose scales of transformation are widely attested and provoke mixed feelings (Ellis *et al.*, 2007). If energy crops such as *Miscanthus* and short-rotation coppice gain momentum, their spatial extent could be remarkable—for example, a 10% substitution of petrol and diesel fuel could require 38% of the current cropland area of Europe (International Energy Authority, 2004). There have been concerns about their visual monotony and mixed effects on biodiversity, as well as on their displacement of more efficient carbon-sequestering landscape covers such as forests (Righelato & Spracklen, 2007). Suffice to observe that new landscapes of energy production are emerging which will probably be more extensive than anything previously seen. Reactions to their visual effects are currently varied, even polarized, but experience suggests that the paraphernalia of a wisely and democratically chosen energy path will become positively appreciated by association with the pursuit of socially endorsed goals. It is unlikely that they will be instantly liked, yet there is an emerging social consensus about their necessity, and this provides a basis on which a favoured narrative may be inferred from their visual cues.

### **Energy Consumption as a Landscape Driver**

Consumption of energy has landscape scale effects in a number of ways, both through the permanent infrastructure required to channel energy to end-users and through the ephemeral qualities of landscape such as the production of energy crops and the sight and sound of moving vehicles. One of the most visible and durable influences is that of electrification, whose infrastructure is rarely celebrated. Some have seen beauty in lines of pylons, not least through their signification of progress and human triumph. Nowadays, pylons are among our least loved industrial artefacts, yet they epitomize society's voracious consumption of electricity and desire for its flexibility. Landscape assessments typically point to their ugliness, intrusiveness, scale, discordant lines and tendency to bisect landscapes, compounded by the alleged unseen story of radiation.

Domestic energy supply has liberated us from the need for climatically appropriate housing, but it now seems certain that reducing domestic fuel consumption will become

a major driver of the built landscape. As Oktay (2002) notes, each region has traditionally produced its own cultural patterns in response to climatic conditions, reflected in distinctive settlements and building forms. Indigenous (as opposed to colonially influenced) traditional architecture has tended to be climatically appropriate, giving protection from sun and heat in some climates and defence against wind and rain in others, whilst widespread use of stone took advantage of its ability to support the storage of solar energy. Settlements evolved in both planned and organic ways to optimize solar benefits through building shapes, aspect, street orientations, and solar access to buildings and outdoor public places. Our response to contemporary settlement planning has often been to prescribe ‘neo-vernacular’ design of buildings to preserve a sense of place. However, this has tended to produce a purely visual effect rather than to emulate their attunement to climate or energy efficiency. The resultant townscape has thus often resulted in an unconvincing pastiche. It is entirely probable that this postmodern narrative will in future be seen as insincere and that greater integrity will attach to sympathetic but unashamedly new vernacular styles based on carbon neutrality (Countryside Agency, 2004) (Table 1). An illustration of possible change is provided by the approval of the previously ‘heretical’ Roundhouse by the Pembrokeshire Coast National Park in September 2008 (Figure 3): almost required to be demolished by the planning authority, it is now officially endorsed by their low impact development policy and could come to be viewed as an appropriate and sympathetic element in the National Park landscape.

**Table 1. Proposed characteristics of a new vernacular for the built environment**

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- Sustainable practice in the selection and supply of materials, assembly techniques and lifetime planning, including flexibility for re-use/ recycling and sustainable practice in energy efficiency and resource use
  - Sensitivity to landscape character, settlement pattern and existing form and function of buildings, whilst accepting that ‘off the shelf’ modular building techniques are not necessarily incompatible
  - Encouraging design that is fresh and innovative and reflects current circumstances, rather than copying past styles
- 

*Source: Countryside Agency (2004).*





**Figure 3.** The Roundhouse, Pembrokeshire Coast National Park.  
© Photo: Tony Wrench.

Transport is a major consumer of energy across its linear features and hubs of interchange, as well as in the location and form of settlements. Ancient routes such as salt-ways and transhumance tracks have contributed significantly to Europe's culture, as have some canals, navigable rivers and railways. While the construction of water and iron 'navigations' would have been noisy and disruptive, and sometimes drew protest from wealthy landowners, they have now mellowed into the landscape and generally possess positive associations. It is the infrastructure associated with motor vehicles, however, that has most pervasively transformed the landscape. At first, the ribbons of tarmac and their associated paraphernalia of service stations and street furniture frequently evoked curiosity and affection. When England's first stretch of motorway opened in 1959, the transport minister hailed it as "magnificent ... opening up a new era in road travel, in keeping with the new, exciting, scientific age in which we live" and Pathé newsreels eulogized it as "safe, fast and beautiful", stating "this is the motoring we used to dream about" (cited in Moran, 2006). Half a century on, motorways are rarely considered beautiful and their service stations are among the ugliest additions to our countryside.

Some still see them as valuable landscapes in their own right, both actual and potential. The British architect Will Alsop, admittedly using inventive imagination, has proposed a SuperCity on a 25 km-wide strip running the length of the M62, as a sprawling but

allegedly beautiful landscape alternative to traditional free standing towns and cities. The M1 has also been considered as Britain's most important piece of land art. The wider consensus, though, is that the motorway landscape is a twentieth-century anachronism and will therefore probably not be a major driver of future landscapes. Righelato and Spracklen's (2007) assessment of the scope for biofuels in transport is bleak, and they conclude emphatically that “for the longer term, carbon-free transport fuel, technologies are needed”. The consequences of such different transportation energetics could well transform landscape appearance and functionality.

### **Embodied Energy as a Landscape Driver**

Few observers are aware of the degree to which the appearance of cultural landscapes reflects their embodied energy. This, though, is perhaps the main producer of both ‘hard’ and ‘soft’ features of the cultural landscape—that is, buildings and other structures, and planted corridors and patches. Embodied energy content is a significant component of the lifecycle impact of the ‘hard’ landscape and can be equivalent to several years of a building's operational energy. Thus, the landscape of carbon-neutrality will be strongly associated with careful choice of construction materials, and with subsequent renovation and maintenance. Most vernacular buildings were probably highly efficient in terms of embodied energy, having used natural materials from relatively local sources, transported mainly by animals and constructed by human effort; they also often proved to be adaptable and durable. The modern urban landscape increasingly reflects high levels of embodied energy through the transport of materials and other ‘upstream’ factors, and the reliance on manufactured materials which possess demanding technical properties. As buildings become more efficient in terms of energy consumption, so the proportion of a building's lifecycle carbon budget associated with embodied energy increases. It is possible that many acclaimed new buildings now celebrated for their energy efficiency will in the future be seen as profligate in terms of total carbon consumption, leading to marked changes in materials and design. Equally, given the importance of longevity and durability in reducing lifecycle embodied energy, our ‘big shed’ edge cities may be unquiet reminders of a throwaway society that was incapable of seeing beyond the next generation. This is not a straightforward issue, however, as the ability to dismantle, recover and reuse building components can lead to efficiency in embodied energy, so that temporary exurbs may have their virtues. In the built environment, embodied energy is also closely associated with drainage and other

infrastructure systems. Installing and maintaining this is highly energy intensive, and it is likely that more naturalistic greenspace networks and sustainable drainage systems will be defining features of future townscapes.

In rural areas, the embodied energy of agriculture is expressed through field boundaries, farm buildings and land cover (including land colour, with most of our farmland appearing unnaturally green, for example). A singularly unseen factor is the amount of energy which has been invested in lowering water tables to enable more intensive year-round farming. Indeed, we take for granted both the dryness of agricultural landscapes and the land cover, machinery and animal breeds they support. This embodiment of energy insidiously alters countryside to an unimagined degree and transforms the expression of cultural landscapes at continental scales. If, in future, less energy is to be embodied in structures such as coastal defences, 'concrete overcoats' for rivers, super-efficient field drains, and urban 'grey infrastructure' then transformation of landscapes by extensive re-wetting is likely. Referring to the practice of urban landscape design, Joyce (2008) reminds us about the need to consider the embodied energy of soft landscape components, with far-reaching implications for climatically appropriate species selection, maintenance regimes, drainage systems and plant production.

### **Can We Learn to Love the New Landscapes?**

Energy, in various forms, has always been a driver of cultural landscapes, and it has driven landscapes which are loved and loathed in different ways at different times. In the twenty-first century energy, both implicitly and explicitly, is likely to drive new landscapes, probably at a faster pace than our aesthetic adaptation will permit us readily to accept. We have a contemporary myth that sustainable development will be synonymous with cosy farming practices, mellow building styles and graceful local energy production. This is probably grossly naïve. The production, distribution, consumption and embodiment of energy for a world which supports perhaps nine billion people is unlikely to be so Arcadian. The implications may seem benign, but many of the outcomes will be industrial in scale and visually heretical. Yet there are possibly some broad principles that can make change more gracious: mass produced solutions and developments that are insensitive to local need and character will probably be less acceptable than those which have some demonstrable link to place and are designed to complement local environmental services. Neighbourhoods will want to know that

‘their’ windfarm or reedbed filtration system is helping them to lead more sustainable lives and make a contribution to wider social goals.

Thus, it is plausible that we learn to love landscapes in which we can read stories of endeavour, solidarity, enterprise, community and purpose. The dominant policy narrative is now that of sustainable development, including a drive for carbon-neutrality. We appear to prefer cultural landscapes which can be read as familiar and coherent texts. Although at times heretical and contested, new energy landscapes can display placeness and tell a story of human ingenuity, adaptation and wisdom that is intrinsically worthy of pride.

It is very likely that rapid change, however essential, will evoke protest. Yet if it is associated with an urgent response to global warming and human need, it has the potential not only to become loved, but also to continue the tradition of cultural urban and agricultural landscapes whose embodied energy reflects a close association with climate. They may show profound continuity with the past, and provide a unifying and democratic narrative for the future. Even though some of the agricultural paraphernalia, housing styles and land drainage of carbon-neutral living may be at variance with polite but malleable tastes, they may also be perceived as having a compelling storyline which resonates with people's underlying values. There are clearly problems in acquiring tastes against an insistent timetable, and in reaching decisions about the relative validity of competing sustainability arguments. It is important, therefore, that attention turns to the democratization of landscape choices through the use of increasingly well tested practices such as deliberative mapping and social/sustainability learning (e.g. Burgess *et al.*, 2007; Petts, 2007; Blackmore *et al.*, 2007; Tàbara & Pahl-Wostl, 2007). Indeed, the landscape presents a powerful milieu of experience and engagement for the use of such approaches.

In sum, energy will be a driving force of future cultural landscapes. It will express itself through production, consumption and embodiment in innumerable ways, both obvious and subtle. We need urgently to respond to the imperative of carbon-neutrality. This will create apparent conflicts with both finest and ordinary landscapes, and will risk intensifying the placelessness of corporate late modernity. Yet the pursuit of sustainable development in an informed and democratic way can produce landscapes that people celebrate because they endorse their underlying narrative. Our acceptance of the

landscape consequences of a carbon-neutral society needs to be well-informed so that we make difficult but wise choices rather than oppose necessary changes in buildings, infrastructure and countryside. Our heads accept the need for these landscape changes; our hearts need to learn to love them.

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### 3.3.4 Output 4

Dobson, S and Selman, P (2012) Applying Historic Landscape Characterisation in Spatial Planning: from remnants to remanence, *Planning Practice and Research*, Vol. 27, No. 4, pp. 459–474. (This paper arose from a PhD under the candidate's supervision; the candidate contributed actively to the structure, content and revision of the paper. Candidate's contribution: initiating, 40% [Collaborative PhD, where Selman initiated and supervised the research, which was undertaken by Dobson]; leading and authoring the paper, 50%).

#### **Introduction**

The archaeological and historical heritage is an established area of planning concern. Conventionally this has been addressed by identifying sites, monuments and buildings of recognized importance, and giving them a degree of protection against development. For example, in the UK, scheduled ancient monuments, listed buildings and conservation areas (groups of buildings and associated spaces which are important to the historic and architectural character of an area) are designated for special protection and, sometimes, enhancement. Local authorities may supplement these on occasion with non-statutory listings, such as sites and monuments records, which identify important complementary features that are worthy of retention. Whilst this approach is a necessary minimum, it reflects a socially constructed concept of 'heritage' which packages the notion of time-depth in an artificial and selective way. As Carman (2002, 46) has noted: 'Strictly speaking, the category "monument" is not an archaeological but a legal one'. Recent approaches to incorporating archaeological and historic attributes in planning decisions have drawn upon more inclusive accounts of the time-depth within a locality.

In order to help enrich our understanding of the wider landscape, we may draw upon historic documents or photographs as means of overcoming the material limitations of the 'site'. However, such records still have a tendency to highlight individual locations, unique events or specific points in time.

As a way of extrapolating landscape from the monument, photographic scene or historic account, English Heritage has developed the method of historic landscape characterization (HLC) in collaboration with local authorities as a way of building a



wider acknowledgement of time-depth into the spatial planning process. Characterization thus supplements site-based approaches and offsets their selective nature by aiming, without making relative judgements of merit, both to say something about everywhere, and to record processes of change over time that exist in even the most commonplace spaces.

Historic landscape characterization considers the value of historic landscape to be a relative rather than an absolute consideration; one which inescapably relates, on the one hand, to the nature of change being proposed and, on the other, to its shifting cultural context. It therefore aims to support numerous evaluations of the past, from a number of perspectives; it is presented as a beneficial tool to the expert and layperson alike, and a potentially valuable means of supporting collaborative and participatory decision-making processes. It helps us to make sensible decisions about a ubiquitous past, chiefly: *how do we deal with an historic landscape which is simply everywhere?*

This technique sits within a broader toolkit of methods that supply spatially comprehensive datasets on land qualities, such as Landscape Character Assessment (Swanwick, 2004), and policy and legislative measures that promote integrated assessment, such as the European Landscape Convention (Council of Europe, 2000). Broadly, the intention of HLC is to enable decision-makers to move away from considering heritage issues solely in terms of sites and monuments, and to recognize that the landscape contains ubiquitous traces and multiple layers of material evidence and cultural associations which help to create a distinctive sense of place. Increasingly, this is being referred to as landscape ‘remanence’—a term borrowed from physics to reflect the tendency of a faint impression to linger even after the processes that caused the original effect have disappeared. Land use policies and individual land use decisions can help to retain and reinforce the distinctive character of a place if they are sensitive to these broader properties of time-depth. By working with the remanence of broad temporal processes, rather than isolated ‘snapshots’ of remnants in time and space, it is possible that a more comprehensive and inclusive connection with the *genius loci* of a place can be promoted.

### **Aims of the Research**

This paper reports on participatory action research, conducted with two local authorities in northern England, which sought to explore potential applications of HLC. Unlike

other techniques in the landscape planning ‘toolkit’ (Bishop & Phillips, 2004), its specific applications are relatively undefined. It is recognized as a useful innovation, but many of its potential applications remain to be explored in practice. Indeed, an early review of the method identified its principal usage as being restricted largely to agri-environment schemes and planning control, although even here its uptake was modest, due to limited understanding amongst archaeologists and other professionals about how it might be used innovatively and creatively (Clark, 2003).

In view of the relative fluidity of ideas about the multiple ways in which HLC might support the spatial planning process, our research aimed to explore aspects of its roles in relation to:

potential applications in real-world situations through collaborative project work;

the development of strategies and the wider evaluation of the ‘past’ stakeholders; and

the facilitation of new dialogues with regard to the historic landscape.

We hypothesized that HLC would facilitate a more integrated approach to the historic landscape than conventional methods, thereby enabling heritage to be more generally embedded in spatial planning practices. Hence, we aimed to ascertain whether HLC can result in the dimension of ‘time-depth’ becoming more effectively integrated into a spectrum of planning policy domains.

In theory, HLC should have three main advantages over existing methods with regard to mainstreaming history and heritage into planning practice. First, it provides comprehensive spatial coverage, recognizing that layers of time-depth are ubiquitous, and are not limited to isolated, acclaimed sites. As noted, this can be defined as a concern for widespread ‘remanence’ of the past, rather than just the localized identification of ‘remains’. Second, it is a ‘retrogressive’ approach to the historic landscape. That is, rather than being concerned in the first instance with the oldest remains and progressively working forward to the more recent legacy, it starts by characterizing the present day and then drilling down. Thus, it commences with elements that are relatively universal and it progressively works backwards to older and

more localized elements, without making judgements about relative value. Third, it represents a ‘character-led’ approach which generalizes about the qualities that confer distinctiveness on broad areas, rather than focusing on single points of expert interest. The results fit readily with other systematic approaches in the contemporary planning toolkit, such as landscape character assessment and biodiversity action plans.

### **Literature Review**

In shifting away from a reliance on ‘snap-shots’ HLC presents the potential for a departure from traditional site-based approaches which have been the predominant means of addressing the inherited environment in the face of change. The increasing emphasis within cultural heritage studies on the intangible characteristics of ‘place’ (Crang, 1997, Crang, M. 1997; Bender, 2002, Bender, B. 2002.; Fairclough & Rippon, 2002, Fairclough and Rippon, 2002. ; see also UNESCO, 2003; Smith, 2006) has led to the emergence of characterization as a potential framework to help address the inherent tension between heritage as culture and heritage as a physical entity or site (Smith, 2006). Whilst historic characterization studies are concerned with the evidence of human agency over time, they also map *beyond* the confines of officially designated site boundaries. In the absence of such a comprehensive dataset covering all landscapes, practice has inevitably focused on visible heritage that has been identified by experts as unique, or heritage that has been uncovered during development.

As previously noted, the general approach to protecting the historic heritage is through the designation of important sites and objects, supported by planning controls over potentially damaging development (Fairclough, 2006). Gilg (2005) suggests that such mechanisms have the potential to encourage a ‘displacement’ effect in the landscape, i.e. potentially increasing development in locations close to those areas where development is restricted due to higher levels of protection. This may also be evident where there is prescription of architectural style or use of materials since such binary divisions reinforce and perpetuate difference based purely on statutory conventions.

‘Conservation’ and ‘change’ therefore have often been presented as alternative and opposing courses of action which may be decided upon with one precluding the other. However, the binary nature of this approach, ‘where the only relations are negative ones of exclusion’ (Massey *et al.*, 1999, p12), causes inevitable conflict. This is especially so when considering the wider historic landscape which by its very nature cannot be

‘contained’ by distinct and discrete boundaries. Smith (2006) also outlines how traditional perspectives perceive a physical ‘boundedness’ of heritage as a property, site, object or structure ‘with identifiable boundaries that can be mapped, surveyed, recorded, and placed on national or international site registers’ (Smith, 2006, 31). Fairclough (2006) argues the case for sustainable development thinking in heritage management and planning, and suggests that decision-makers need to examine the potential of whole landscapes to accommodate change as sustainably as possible. Visualizing heritage as a ubiquitously embedded property has the potential to release it from two forms of ‘boundary’ constraints: both the obvious physical/spatial boundaries associated with sites and artefacts; and the divide between layperson and expert, as expertise is used to facilitate evidence-based dialogue between stakeholders rather than impute value judgements to bits of heritage. This more readily accommodates the varying degrees of subjectivity and perception inherent in landscape as, for example, espoused by the European Landscape Convention (CoE, 2000).

It may be noted that boundaries drawn for the description of Conservation Areas or protected sites, and those drawn to define character areas, differ in nature. The former are created to define the point at which a particular kind of action should be taken—this is both distinct and prescriptive and based upon the presumption that the action should only be contested in a minority of cases. Character area boundaries, on the other hand, aim to demonstrate varying levels of difference across the whole landscape and are therefore comprehensive rather than distinct; there is no space on the map between character areas since everywhere possesses spatial and material character of one form or another. The boundary is an indication of changing character and so is descriptive rather than prescriptive. This is not to say that the boundary itself is unimportant, especially since it is likely that the boundary may trace some form of visible landscape feature. Characterization studies aim to depart from the exclusive approaches of statutory protection and instead provide a more inclusive and value-free way of describing the remanence within all space. It is hoped that such work therefore may help support multiple discourses and uses; these are characteristics which are necessary if we are to develop approaches that accommodate the inherent subjectivity of landscape.

Much research has referred to the subjectivity inherent in perceptions of the landscape of material culture and the multiple pasts which are created by people who: ‘... interpret or “read” the landscape within their own cultural context’ (Antrop, 2005, 27; see also

Lowenthal, 1985; Hodder, 1991; Tilley, 1994; Muir, 1999; Rippon, 2004). A study of how we might apply HLC therefore is also a study of how opportunities may be developed to encourage and embrace these perspectives practically. The research presented here, therefore, is concerned both with how a wider historic landscape might be addressed within practice and, second, how changes in professional approaches might be achieved through this process.

### **The Study Context**

The research sought to facilitate and interpret the nature, use and influence of HLC within strategic and project-based landscape planning. The study was conducted through a collaborative approach of action research with two local authorities in the north of England (Figure 1): Sheffield City Council Parks and Countryside Service and Rotherham Metropolitan Borough Council Forward Planning (Environment and Development Services). The dataset for both areas had been developed by the South Yorkshire Archaeology Service on behalf of English Heritage. Action research was chosen as a means of structuring collaborative work whilst researching practice, especially in the context of exploring a new tool and its contribution to both landscape practice and landscape research. The action research approach, pioneered by Lewin (1949), liberates the researcher from being a passive observer. Its use of iterative reflexivity enables both a critical and epistemologically grounded approach, and an opportunity for the researcher to be an initiator and catalyst. This was particularly appropriate to the present project, as the HLC dataset was still in draft form and so the researcher was in a position to influence its final development by helping to identify potential applications. The workplace therefore became both a testing ground for research ideas and a source for new questions and enquiry.



FIGURE 1. Location map of Sheffield and Rotherham.

## Methods

The fieldwork was conducted through qualitative action research. This employs a high level of participation, since it is the participants themselves who offer opportunities through which the HLC might be explored. To avoid an expert-led, transactionary relationship, the researcher worked with the participants on a regular basis (in this case one day per week for each partner). This requires a more subjective approach, in which the researcher abandons the pretence of ‘distance’ and adopts a high level of reflexivity. A regular research diary enables discussions and observations to be recorded, along with the researcher's own motives and actions. A grounded analysis of the diary ensures that the researcher extracts the most significant outcomes as objectively as possible.

It was previously noted that, in theory, HLC should confer benefits of integrating the qualities of remanence more generally into spatial planning, including policy domains which hitherto have not been systematically influenced by history and heritage. The two case studies have thus been chosen to exemplify areas where this impact can be achieved. In practice, they were used to demonstrate the organizational adoption of HLC into plans and strategies, and to show how social, environmental and economic policies can benefit from the incorporation of a time-depth perspective.

A mixture of research methods was used, including unstructured interviews and discussions with workplace colleagues, observation, and the recording of the researcher's own learning process as the fieldwork progressed. The HLC data made available by the South Yorkshire Archaeology Service was regularly explored in a

Geographic Information System (GIS), ensuring that its robustness could be tested in day-to-day planning decisions and the production of strategies.

Questionnaires were used to gain an initial impression of how HLC was currently being used in practice. Since the development and application was at an early stage, questionnaires could do no more than probe this superficially, and confirmed that an action research approach was required both to explore and encourage HLC uptake. Action research requires the researcher to make interventions whose effect can be recorded. Recording was undertaken through diaries of observations, whilst discussions also enabled emergent and informal ideas to be noted down. This type of direct engagement with practitioners was essential to gain their trust and insight, as well as overcome their scepticism towards the value of HLC.

Although the research commenced with discussions about the process of designing queries or representing landscape characteristics and at various scales, it progressively led the researcher and participants to explore broader theoretical issues about what the HLC dataset represents and reveals about landscape. It helped planners to become more aware of the tacit world-views which may be held by multiple stakeholders, within which 'the past' may vary in its significance, means of representation, and value. Such discussions provided an important means for the researcher and participants to understand each other's domains. More importantly, they provided the stimulus for shared exploration of how these domain-specific, applied ontologies might be formally structured and conceptualized. From a seemingly simple workplace discussion, structured reflexivity enabled the contextualization of experience and helped to build praxis out of practice.

Action research, therefore, allowed the researcher and stakeholders to question and challenge each other's assumptions through communication, feedback and the sharing of ideas. This in turn provided opportunities to question and build new common understandings of how a landscape perspective concerning the past might be interpreted within various work-based situations. Thus, testing the tool in practice generated opportunities to question not only its relevance and usefulness, but also the nature of the application being pursued. The researcher kept a record of 'action cycles' (McNiff *et al.*, 2005) within a work diary as a way of tracking such processes of reflexive enquiry.

The use of action cycles provides a means to structure activities through a continuous cycle or spiral of steps (Elfors & Svane, 2008) in terms of 'motive', 'action' and 'outcome'. This may essentially be summarized by the questions: What do I wish to do and why? What did I do? What has this achieved and what did I learn? This process has many similarities to inductive grounded theory, especially its use of 'mini frameworks' to help track storylines and distinct groupings of activities and outcomes when organizing fragmented data (Strauss & Corbin, 1990). This is an ongoing process in the workplace where new ideas, actions and activities are formed by the outcomes of their predecessors in an iterative cycle leading to new understandings.

When recording evidence, it is clearly important to distinguish between newly generated actions and those which are more explicitly associated with an existing or previous action. Action research, as a minimum, provides a cyclical 'single loop' structure comprising motives, actions and outcomes, whereby innovations emerge from refinements of previous practice. However, as Blichfeldt and Andersen (2006) note, greater benefit can be drawn from the 'double-loop' learning process introduced by Argyris and Schön (1978) and Schön (1983). In this model, outcomes resulting from a 'practice' loop may feed into a second loop as the 'motive' for theoretical enquiry. Subsequently, the actions and outcomes of this stage may feed back into the practice loop for testing 'on the ground'. This explicit and ongoing oscillation between practice and theory provides a key means to maintain a strong research input into working in practice, ensuring that activities in practice remain grounded within a strong motive for research and academic enquiry. The current study, as well as providing a structured and documented cycle between theory and practice, also enabled the 'looping' of ideas and experiences between local authorities which further illuminated discussions about the potential transferability of applications.

The fieldwork was conducted through context of two case studies with complementary aims. Bearing in mind the numerous potential applications of HLC and the relatively limited compass of case study research, the project focused on a small number of promising areas. The case study examples, however, can be extended to a wider range of spatial planning activities.

The first placement, with Sheffield City Council, aimed to explore the potential of HLC as a linking mechanism between otherwise disconnected spaces. The focus was on a



green space strategy and health walk initiative, for which HLC afforded a comprehensive information source about the qualities of everyday spaces. Traditional, point-based, historic data sets would not have suited this exercise, as they would not have been able to connect heritage with broader land use objectives. The second case study, with Rotherham Borough Council, sought to demonstrate the value of historic legibility, often referred to as ‘evidential value’ (English Heritage, 2008). In this instance, a biodiversity action plan benefited from cultural mapping, in which knowledge about the remanence of former field systems supported new strategies for urban greening. This example reaffirmed the need for a comprehensive, as opposed to site-focused, approach to historic landscape if it is to integrate with larger-scale landscape planning. Both cases were more generally intended to illustrate the role of evidential value in linking the past with the present.

Over a 12-month period with Sheffield City and Rotherham Metropolitan Borough Councils, the researcher engaged in many areas of work. From the numerous avenues that were explored, two proved particularly effective in detecting and valorizing ‘historic legibility’, namely:

East Area Development Framework Green and Open Space Strategy:  
Hidden History Walks (Sheffield City Council [SCC], 2008), and

Rotherham Biodiversity Action Plan: Ancient and Species-Rich  
Hedgerow Project (Rotherham Metropolitan Borough Council  
[RMBC], 2009).

The principal work context with Sheffield City Council Parks and Countryside Service was the production of the Green and Open Space Strategy for the city. Within this, the researcher suggested that HLC could be used to support the Strategy, in which there was an intention to promote a holistic approach to landscape as green infrastructure, as well as inclusive ways of linking with multiple stakeholders. This approach therefore necessarily required a method which allowed the exploration of spatial qualities beyond the distinct boundaries of designated areas and buildings. The initial stage of strategy development was the East Area Development Framework Green and Open Space Strategy (SCC, 2008), covering a part of Sheffield that had been subject to industrial decline and loss of employment.

The work with the Forward Planning section of Rotherham Metropolitan Borough Council's Environment and Development Service afforded a very different context. Rather than being focussed upon supporting a single strategic document, as was the case above, it offered a broad range of potential opportunities to use HLC and to initiate discussions. In particular, this paper reports on the use of characterization within the Council's biodiversity action plan.

## **Results**

The findings from the two case studies reflect two main outcomes. First, they consider the evident 'buy-in' of local authority officers to the significance of ubiquitous time-depth, and the role of HLC in supporting this. Second, they identify specific changes to planning documents and policies attributable to the introduction of HLC data.

Sheffield's East Area Development Framework Green and Open Space Strategy notes that:

Green and open spaces are part of urban landscape and an important part of the experience of a place...Green spaces offer a window into the underlying landscape, revealing much about its history and origins and exposing features that can enhance the quality and character of an area. (SCC, 2008, 54)

One way of supporting this area-based treatment of the urban landscape was to apply the HLC database to the development of a connective green and open spaces framework. One problem is that multiple phases of often unsympathetic development and industrialization in the east of the city have created an urban landscape which was described by some practitioners as chaotic. Indicators for economic activity, housing, environment and community safety all fall significantly below the Sheffield average and local residents cited the quality of street scene and green spaces also as 'low' (SCC, 2008). A large proportion of the area's green spaces was classed in the strategy as being fragmented, incidental and often lacking obvious and distinct character. This provided an opportunity to explore whether characterization could help to provide a basis for reinforcing the coherence and legibility of the green and open spaces network.

The initial stages of research saw a growing appreciation, from the practitioners, that HLC provided a much greater spatial level of comprehensive coverage than was afforded by existing GIS layers of historic environment data such as listed buildings,

scheduled ancient monuments or specific points of archaeological intervention. The landscape-scale nature of the data enabled it to be consulted at many stages during strategy development rather than just as an isolated stand-alone historic ‘backdrop’. This shift in approach was an important step in considering ‘the past’ as a *ubiquitous* temporal dimension of landscape.

A significant outcome was inclusion of a recommendation in the strategy to evaluate the potential for a ‘Hidden History’ trail designed to link together all of the incidental spaces around Darnall, many of which were regenerated scrubland formed through various phases of housing clearance. Thus, the Strategy observed:

At first sight Darnall appears to be of 20th century origin. The real character of Darnall however, lies in the way its heritage is built into its ‘fabric’...A Darnall Heritage trail, connecting the interface green spaces around the residential areas could provide a linking mechanism between otherwise disconnected spaces: highlighting the historic origins of each green area. (SCC, 2008, 62–63)

The basis for this recommendation therefore is that there is an underlying and interwoven historic landscape which can act as a framework, regardless of any specific chosen route for a history trail, providing the potential for contiguity and inherent interconnectedness between fragmented spaces. The physical connection of the trail thus draws its value from the connectivity of the whole rather than individual ‘hotspots’.

Further, the Green and Open Space Strategy informs many areas of policy and community engagement associated with the Active Sheffield programme, which supports a national initiative to encourage people to improve their fitness through regular walking. Specifically, in Darnall, it was possible to use HLC data to identify interesting and successful circuits in an area which did not at first sight lend itself to leisure walks. This initial outcome has subsequently been extended through a collaboration with Active Sheffield to design urban historic landscape ‘detective walks’ around the city (Dobson, 2011).

This application therefore highlights two key differences between the characterization and more traditional, site-based data. First is the importance of continuity rather than separation; the second lies in the way in which characterization codes the readability of the past in the present. Readability, or historic legibility, of the past is particularly

valuable when using the past as a connecting thread through many different land uses and phases of urban development. In this sense, characterization celebrates the everyday time-depth of place rather than stereotypical and often narrow characteristics of traditionally celebrated pasts. By adopting a process of continual dialogue through action research, the practitioners' initial impression of the potential uses of HLC thus evolved into a fuller awareness of its applicability to urban design and planning by offering opportunities to consider multifunctional and multi-period space.

One of the projects addressed in the second case study was the Rotherham Biodiversity Action Plan, which included the following statement:

The preparation of Rotherham's Biodiversity Action Plan (BAP) identified ancient and species-rich hedgerows as being locally and regionally important, and therefore a priority for action. Objectives set in the Rotherham BAP include the identification of ancient and species-rich hedgerows and important hedgerow trees to establish a register of Rotherham's ecologically and historically important hedgerows. (RMBC, 2009, 2)

The 'Rotherham Ancient and Species-rich Hedgerow Project' sought to gather survey data on species diversity to help the Council to produce a register of ecologically and historically important hedgerows. Secondary aims were to train survey volunteers in recording methodologies and to promote Rotherham's ancient hedgerow resource. Whilst a number of agricultural fields had already been identified by the Rotherham Ancient and Species-rich Hedgerow Project as containing ancient hedgerows, the placement was able to explore the potential for HLC to help target other areas.

The Sheffield experience had revealed that, for characterization to have relevance in many spatial planning scenarios, it would be insufficient to simply provide information about the past; it would have to be related to the present in some way. The GIS data attribute 'historic legibility' provides this connection. It represents the 'evidential value'—the remanence—of landscape, which may be present as a historic resource in even the most modern of developments. When considering the historic trail of Darnall, it was the street morphology and the very plot boundaries of green and open spaces which provided this readability within the urban landscape character. For the purpose of the proposed walking trail, all time periods were acknowledged as providing evidence of Darnall's development and were identified through the historic characterization

dataset. In the case of RBMC's hedgerow survey, however, there was no similar framework and so a search of the South Yorkshire Archaeology Service's character database was undertaken using the following filters:

Areas where the current character type was 'enclosed agricultural' land of pre 1700 origin

*Or:*

Areas which had been, but were no longer, 'enclosed agricultural land'

*And whereby:*

Historic legibility of this previous phase was recorded as being present i.e. 'partial' or 'significant'

*And whereby:*

Date of the previous phase was pre-1700.

The search resulted in the identification of target areas (Figure 2) where traces of ancient hedgerow patterns might have survived. The date of pre-1700 used in the search was established through discussion with the lead officer on the survey. Discussions in the field with survey volunteers confirmed that many of the target areas were readily visible, and were considered obviously old farming landscapes. However, other target areas—which had been, but were no longer, agricultural landscapes yet still retained some legibility—were far less immediately apparent. Such targeted sites, that had the potential to contain readable 'remanence' of a pre-enclosure farming landscape, included diverse modern land uses such as a golf course and a 1970s semi-detached housing estate. Their underlying commonality was the intrinsic readability and survival of evidence (either through material remnants or just spatial forms) of pre-1700 field boundaries which had continued throughout modern land use changes.

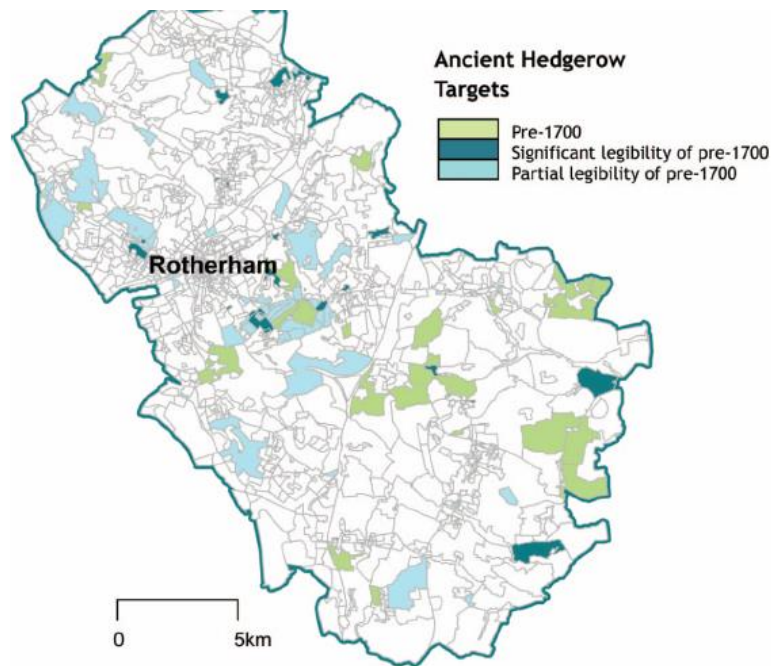


FIGURE 2. GIS plot of targeted area for ancient hedgerow survey (Dobson, 2010).

Subsequent field survey was then necessary to establish whether the evidence for legibility suggested by GIS analysis was associated with actual relict hedgerow remains, or whether the legibility of these boundaries was due to their persistence in modern development through, for example, superimposed traces such as *street alignments* or boundary walls. Establishing where remnant fragments of hedgerow boundaries may still be found embedded within new land uses enabled the identification of important ‘urban’ hedgerows which may have become neglected or mis-/unmanaged. Future programmes of supplementary planting may present an opportunity to strengthen the links between ‘gappy’ and neglected hedgerows and between rural and built-up spaces.

The fact that this exercise resulted in planners becoming more aware of the value of HLC is now reflected in the report of the Council's hedgerows project:

The historic element of the project will be based on information supplied through the Historic Landscape Characterisation dataset; the data provided has been queried to produce map layers showing land characterised as previously agricultural or green land use (but not woodland) with evidence available from 1700 where partial or significant evidence of the green land use is still evidenced or visible. This desk study will identify areas of likely historic hedgerow presence for priority survey work. (RMBC, 2009, 15)

This case demonstrates the potential to support biodiversity strategies through the use of Historic Landscape Character datasets. Predominantly rural ancient hedgerow lines may be reconnected to those remnants which survive within modern urban and urban fringe/town settings. The GIS-based targeting helped support strategies for enhancement of the ecological resource as well as recognizing a much wider readable landscape heritage within which the surviving remnants are placed.

Both placements yielded examples of carefully selected and targeted HLC data contributing to the revision of policy statements and/or the introduction of new initiatives. Council officials also became progressively more willing to consider the relevance and usability of HLC data, and the ways that it might contribute to integrated landscape assessments within various policy domains. In terms of the research method, there is evidence that double loop learning occurred through the deeper understanding of the significance of time-depth and its potential incorporation into planning programmes (Figure 3).

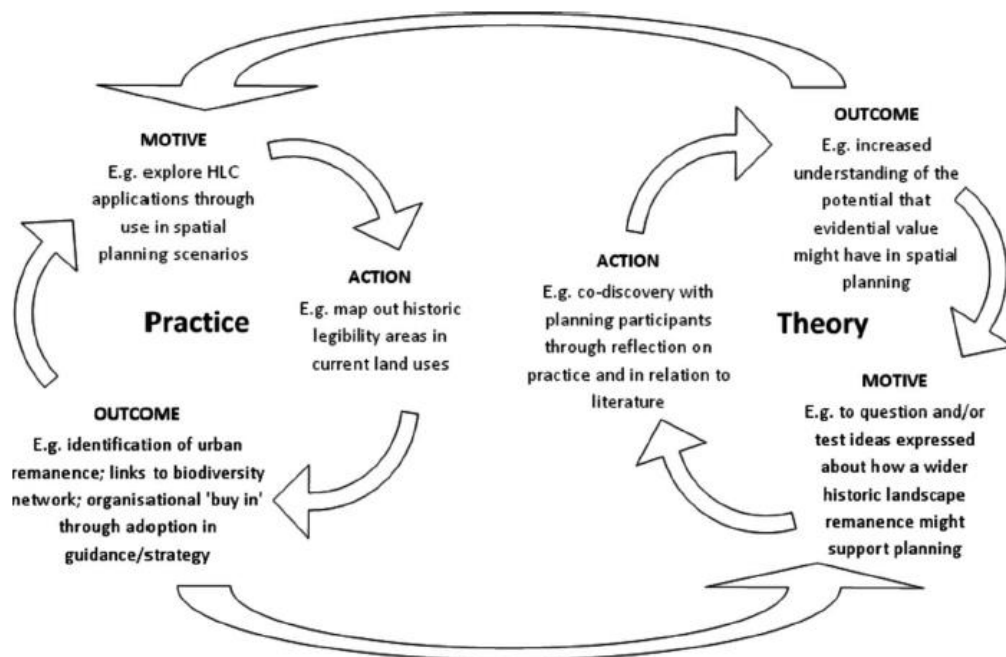


FIGURE 3. The evolution of double loop learning during the case studies.

## Conclusions

Whilst not originally the main focus of Historic Landscape Character assessment, its inclusion of a historic legibility attribute provides an important means of connecting the

less obvious past to the present landscape. Evidential characteristics in the landscape may be multi-period and overlap within both time and space. Characterization can be considered as a means to help generalize landscape and also to acknowledge the inherent ‘readability’ of its past in differing physical forms. This physical depth of place points toward a heritage which is necessarily complex and challenging to unpick, and is more dynamic and embedded rather than static and monumental: ‘the historic environment is not free-standing but part of a wider interconnected environmental whole’. (Fairclough, 2008a, 298).

Evidential value (EH, 2008), when applied to the landscape, refers to the value of landscape as ‘texts’ which contains many meanings to different individuals: each one more or less readable than another; each one reinforcing, concealing or spatially interacting with another. The value of this should not be ascribed by what the evidence is *of*; evidential value is therefore simply the value of having ‘text’ in the landscape, regardless of period or a supposed absolute importance. An emphasis on evidential value of landscape time-depth may therefore be summarized as a shift in focus from ‘remnants’ to ‘remanence’—that is, from the obviousness and immediacy of a first reading of landscape to a more subtle appreciation of its underlying ‘persistent forms’ (Conzen, 2004).

The examples presented here demonstrate that the explicit inclusion in landscape planning of time-depth is able to contribute to discussions around change, whereby ‘the past provide(s) object lessons for the future’ (Whitehand, 2001, 106). Official databases that provide planners with records of archaeology, listed buildings and conservation areas—whilst important—cannot alone support the emerging need for infrastructural, ‘ecosystem service’ approaches to landscape. Historic Landscape Characterization proved effective as a means to support this through its emphasis on the character and cultural evidence of multiple time frames, in both urban and rural contexts. It also shares potential common ground with other process-based approaches to landscape planning such as Landscape Urbanism (Waldheim, 2006) and the conservation of ubiquitous and intangible heritage (e.g. Smith, 2006; Schofield, 2008; Fairclough, 2008b). The dynamic and experiential nature of the historic landscape as experienced through movement may also be supported through characterization studies. As such, it might also intersect with current research into the mobile nature of heritage (e.g.



Cheung, 2003; Moles, 2008) and the experiential nature of landscape more broadly (Thwaites & Simkins, 2007).

In recent decades, spatial planning has made considerable progress in ensuring the necessary safeguard of remnants of history and pre-history in the environment. However, it has been less successful in recognizing the ubiquitous remanence of previous traces in the landscape, and how these help to confer distinctiveness, connectivity and sense of place. Historic Landscape Characterization is the principal new technique in assisting this task. Further, whilst heritage has been valued as a material artefact which can contribute to various other planning objectives, the more ubiquitous patina of time-depth has scarcely been acknowledged. However, this wider quality enables history and heritage to integrate more effectively with themes related to health, biodiversity, community culture and climate change. This paper has aimed to illustrate how the trans-temporality (Hillier & Hanson, 1984) of remanence provides a global overview of heritage which does not emphasize the individual local site or snapshot of time. Instead, it provides a breadth and depth which can illustrate far greater levels of continuity and change than might otherwise be acknowledged through a focus on the individual remnant site or monument. Ensuring the continued remanence of 'place' qualities requires strategies which maintain our ability to read landscape as a whole, if we are to maintain a broader richness and depth of landscape character for future generations to appreciate.

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### **Notes**

English Heritage is a non-departmental government body, predominantly financed by the Department of Culture, Media and Sport (DCMS) in England. They define their role

as championing historic places and advising the government and others on the nation's heritage.

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### 3.3.5 Output 5

Selman, P and Knight, M (2006) On the nature of virtuous change in cultural landscapes: exploring sustainability through qualitative models, *Landscape Research*, 31(3), 295-308. (Candidate's contribution: initiating, leading, authoring each 70%. Candidate directed the research project and led on the publication).

#### **Introduction**

Landscape, although a contested term across a range of disciplines, is gaining currency in policy and planning circles both as an important sectoral issue and as a basis for integrated planning and management. Important recent illustrations include the European Landscape Convention, the Pan-European Biological and Landscape Diversity Strategy, the World Conservation Union (IUCN)'s 'Protected Landscape/Seascape' (Protected Area Category V), and the World Heritage Convention's 'cultural landscape' category. This has resulted in numerous, diverse domestic and international policies (see, for example, Scazzosi, 1999). As a sectoral issue, the meaning of landscape is typically related to a range of scales, from detailed site design to stewardship of sub-regions. Policies vary from conservation and reinforcement, to restoration and re-creation (Warnock & Brown, 1998). As an holistic concept, attention has focused increasingly on integrated approaches to land management, economically innovative milieus and community vitality. Here, scientists and policy makers have been attracted to the idea of 'landscape scale' (Selman, 2006), as this facilitates the operation of partnerships and trans-disciplinary inquiry based on distinctive places. Whilst landscapes are clearly leaky—in environmental, economic and social terms—they nevertheless display a degree of unity, identity and self-containment which facilitates modelling, character-based planning, multi-functional management and stakeholder engagement.

Within a European context, there has been a long-standing concern for 'cultural' landscapes, embodying serendipitous relationships between environmental potential and human technology. However, reference to such landscapes is no longer a preoccupation only of the 'Old World' for, as the IUCN notes:

Though there is currently a concentration of Protected Landscapes in Europe, they are to be found in every region of the world: in developed and developing countries, in small island states and continental countries. Many more areas, particularly in the developing world, have the potential to be recognised as Protected Landscapes, because they are rich in natural and cultural values and can be models of sustainability. (Phillips, 2002, p. 1)

Whilst drawing principally on West European experiences, therefore, the ideas within this paper are intended to have an international currency.

Despite its great significance, the cultural landscape is widely under threat from ubiquitous ‘drivers of change’ (see, for example, Piorr, 2003). Van Eetvelde and Antrop (2004) describe traditional landscapes before the 18th century as being very diverse, small scaled, clearly structured and well ordered; by contrast, they argue that post-modern landscapes are widely considered to be homogeneous, chaotic and structured at a large scale, a view echoed in, for example, the first European ‘state of environment report’ (Stanners & Bourdeau, 1995). Within progressively delocalized economies and societies, traditional vernacular features that have conferred place distinctiveness and which had in many respects epitomized sustainability (see, for example, Benson & Roe, 2000), are experiencing functional obsolescence and are no longer being produced by ‘fortunate accident’. Not surprisingly, there is widespread concern to safeguard important areas and seek to maintain traditional land management practices. It is equally predictable that much of this concern will entail incentivizing farmers as, in many rural landscapes, ‘cultural’ virtually equates with ‘agricultural’. We consider that a landscape-centred approach to sustainable natural resource management and rural policy should not just be confined to ‘top-tier’ areas, but is applicable on a spatially comprehensive basis. Thus, it cannot rely on continuous and universal public subvention. Nor can most parts of the settled world rely on ‘nature’ to maintain a homeostatic ‘balance’—human impact has become too pervasive for this to occur entirely spontaneously. Sustainability planning must recognize that all settled areas are ‘cultural’ rather than ‘natural’, and be prepared to intervene in appropriate ways.

### **The virtuous circle of the regenerative landscape**

Starting from the premise that cultural landscapes are widely experiencing a ‘vicious circle’ of biodiversity loss, erosion of visual character, hydrological disruption,

community decomposition and even environmental dereliction (see, for example, Commins, 2004; Dalton & Canevet, 1999; MacDonald *et al.*, 2000), we argue that the objective of landscape planning should be to re-instate ‘virtuous circles’ between natural—cultural and social—economic capitals. This does not automatically mean reproduction of inherited vernacular landscapes—although this might be highly desirable and feasible in certain localities—but, rather, that self-reinforcing links will assist the conservation, re-creation and restoration of distinctiveness. In some cases, this might well entail the continuation of traditional farming practices and products; elsewhere it could be based on contemporary innovations, such as localized production and consumption of biomass energy.

The purpose of this paper is two-fold. First, we consider the idea of ‘vicious’ and ‘virtuous’ circles in the cultural landscape, and their effects in diminishing or accumulating valued attributes. Second, we explore the use of qualitative systems models as a way of reflecting on the nature of landscape sustainability, and the way this might be sustainably promoted by reciprocity between people and place.

As noted, the core dilemma for rural cultural landscapes is that the agri- and silvi-cultural activities that once produced them are increasingly obsolete. These trends are partly due to inexorable economic and technological innovations. However, they also derive from public policies which, in the recent past, have promoted monoculture, monofunctionality and monodisciplinarity—emphases which apply not only to productive natural resources and urban planning, but also to wildlife and landscape conservation (Antrop, 2004; Jongman, 2002). There is an emergent consensus that, if we are to produce sustainable landscapes, we need to pursue inter- or trans-disciplinary approaches (Tress & Tress, 2001) that re-connect social and economic entrepreneurship with environmental processes and patterns. In this regard, the multi-faceted phenomenon of ‘landscape’ can be seen as an amalgam of ‘capitals’. Different authors have proposed different categories of capital (see, for example, Ekins *et al.*, 2003; Pearce & Barbier, 2000), but broadly we can identify:

natural capital—physical environmental and ecological functions, assets and capacities;

cultural capital—the human patina, both physical and associative, on the

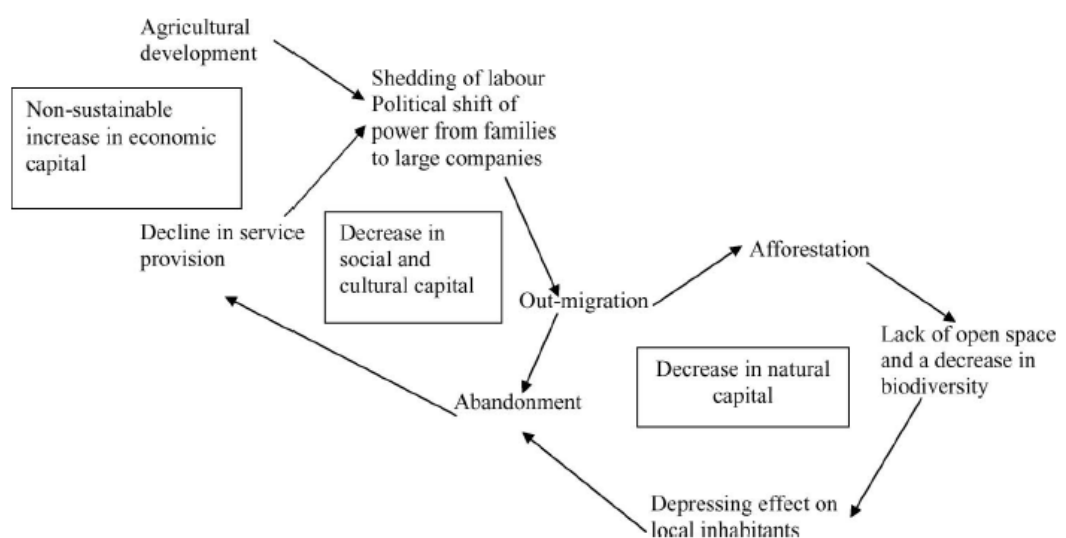


physical environment;

social capital—networks and organizations that link individuals and groups in reciprocal relations of trading and trust;

economic capital—investment that yields products and services, thereby creating wealth and employment.

Definitions and categories vary, and it is not the intention here to dwell on these debates. The key point is that, at the landscape scale, diverse capitals exist in intimate association; landscapes appear distinctive and characteristic as a result of a unique combination of natural and cultural capitals, and this combination has been produced and reproduced by specific interplays between social and economic capitals. Equally, in sustainable cultural landscapes, people and place interact in mutually reinforcing ways, so that human agency nurtures the resource base, which in turn rewards this stewardship by providing life-support functions and economic opportunity. Landscape distinctiveness and functionality are lost when this link breaks down, so that localities and regions become homogenized by ubiquitous trends, and scant social capital is invested in cherishing and stewarding fragile places. In other words, the formerly virtuous circle becomes a vicious circle (Figure 1), and there appears to be no spontaneous mechanism whereby this process can be reversed: public intervention of some kind appears necessary to initiate a process of re-embedding virtuosity.



**Figure 1.** Vicious circle scenarios showing links between decreases in social, natural and economic capital. *Sources:* Adapted from Commins (2004) and MacDonald *et al.* (2000).

Drawing on Prigogine's theories of dissipative structures (see, for example, Prigogine & Stengers, 1984), Naveh (2000) has argued that four landscape categories exist: 'natural and semi-natural landscapes', which behave as adaptive self-organizing systems; 'traditional agro-ecotopes', which retain many of their self-organizing capacities despite being regulated and controlled by humans; 'urban-industrial techno-ecotopes', which rely heavily on fossil and nuclear energy, lack multi-functionality and produce high outputs of entropy, waste and pollution; and 'high-input agro-industrial ecotopes' which, while still dependent on photosynthetic energy, come close to 'throughput systems' and require high ecological and economic subsidies. Of these, the latter two categories reflect the 'placeless' landscapes which this paper associates with vicious circles; the first category is capable of continuous self-renewal and is considered by bio-regionalists to display 'autopoiesis', whilst the second category reflects the 'cultural landscapes' of this paper and, according to Naveh, retains sufficient natural and cultural information to behave as a 'regenerative system' (Lyle, 1994).

It is our contention here that cultural landscapes increasingly require planned human intervention to re-instate the virtuous links characteristic of 'regenerative' systems, but that, once re-embedded, these reciprocities can become self-sustaining, rather than being perpetually reliant on taxpayer subsidy. We consider that the 'landscape scale' affords peculiar opportunities to pursue virtuous linkages because of its innate environmental functionality and emotional place attachments—these are not always currently strong, but are potentially recoverable and potent. Emphatically, such an approach cannot be predicated on a naïve view of environmental self-containment or socio-economic re-localization; rather, it seeks a limited amount of re-embedding and reconnection, which is yet sufficient to instil a virtuous dynamic leading to sustained reinforcement of functionality and identity. Equally, it does not presuppose a defensive protection of nostalgic scenery, but allows for a range of options from strict protection to reclamation, and admits the scope for innovation and surprise. Cultural landscapes are thus as much about 'futuricity' as 'historicity'.

Virtuous circles have been described in the development literature as a means of reversing social problems by pursuing beneficial relationships between community and environment whereby each benefits (see, for example, Aoyama, 1999). These principles from 'developing' countries, however, are transferable to 'developed' regions. For example, careful custody of visually attractive features encourages tourism and

economic wealth (van Eetvelde & Antrop, 2004) and aids both natural and social capitals. Increasingly, options for rural diversification draw upon the territorial repertoires of areas producing distinctive food and artefacts which can be valorized locally (Brunori & Rossi, 2000; Ventura & Milone, 2000), such as those related to shortened food chains (see, for example, Murdoch, 2000; Winter, 2003) and ‘gastro tourism’ (Hinricks, 2003; Sage, 2003). A strong institutional capacity can consolidate as the community works towards a common and beneficial goal, and a strong identity of ‘place’ becomes established as economic and social sectors reap the rewards from natural assets and cultural traditions (Massey, 2004). Some claim that organic farming provides a specific case of virtuosity within the landscape. The basic principle of organic farming is that of seeking to work with, rather than dominate, natural systems (Lampkin, 1990); increasingly, social benefits are emphasized, including job opportunities, promotion of local markets, adherence to fair-trade principles, emancipation of female farmers and ‘positive’ globalization. Rossi and Nota (2000) describe how landscape character and aesthetic pleasure can improve through organic farming, whilst Clementsen and van Laar (2000) describe knock-on effects of community pride, retention and sharing of knowledge, and co-operative marketing. Not surprisingly, some studies suggest that virtuosity is not easy to develop within the landscape, nor is it automatically enduring. Milestad and Hadatsch (2003) noted that Austrian farmers were concerned about shifting from conventional farms to organic practices because they feared increases in bureaucracy, farm inspection and subsidy withdrawal. In New Zealand, one study revealed preferences for conventional farms as tidy and well-tended ‘cultural signatures’ of the pioneer spirit relative to less-manicured organic farms (Egoz *et al.*, 2001), whilst Cobb *et al.* (1999) noted social conflict between long-standing organic farming businesses and recent incomers. It is therefore important to recognize the need for continued and carefully targeted input to ‘regenerative’ systems to sustain virtuous conditions.

### **Detecting landscape virtuosity**

There have been few attempts to model entire rural landscapes, and approaches to date have had limited use as landscape planning tools. Hence, we advocate the further development of models based on virtuous circles. In this paper, we suggest the use of qualitative systems models as a relatively transparent and intuitive starting point for understanding planned and spontaneous change in cultural landscapes. In particular, we

consider their value in clarifying feedback loops between people and places as a self-reinforcing and virtuous basis for accumulating capitals (though they can also, of course, be used to depict the reverse effect).

Conceptual models can be formalized into qualitative ‘sign graphs’, and these have the advantage of allowing a system to be analysed without needing to quantify all its flows and stores. As this approach identifies negative and positive feedback loops, it is sometimes called loop analysis (Puccia & Levins, 1985), and Ortiz and Wolff (2004) have demonstrated its value for investigating management effects and exploring ‘what if’ questions in holistic systems. Bodini *et al.* (2000) applied this method to marginal aquatic landscapes in the Po Valley (Italy); their initial conceptual model, subsequently elaborated into a sign graph, combined economy, tourism, conservation and recreation, and was especially helpful in illuminating complex feedback effects between protection effort and local income. In this section we explore how processes in the rural landscape can be represented as a multiple-cause diagram and how this can be developed into a tool that represents interrelationships and flows of capital.

Figure 2 represents a hypothetical cultural landscape where the four ‘capitals’ have been sub-divided into several constituent variables. For example, the economic capital includes local wealth, business health, levels of investment and employment rates. Each arrow shows a relationship between these, so that employment has an impact on local wealth, business health influences investment, and so forth. There are several large loops identifiable within the diagram that incorporate all of the different forms of capital, but there are also many mini-loops that operate using just a sub-set of variables. We illustrate these by reference to case-study material from two ‘area-based’ initiatives in the north of England, which we selected as exemplars for their pursuit of heritage-based regeneration through local partnerships and financial pump priming. These are the Hambleton and Howardian Hills Partnership Cultural and Natural Development Opportunity (CAN DO), which succeeds a number of National Park Authority initiatives linking environment and economy, and the Bowland Forest programme in Lancashire, comprising a range of ‘sustainability’ projects focused on community and natural resources.

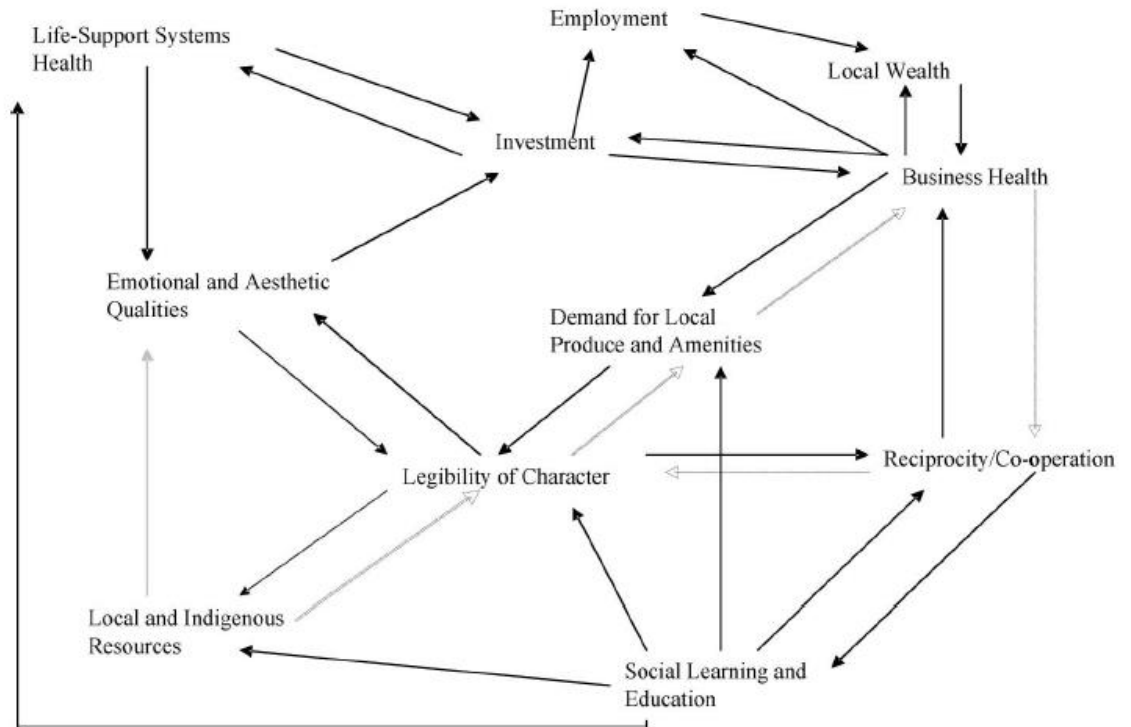


Figure 2. A multiple-cause diagram representing a hypothetical virtuous cultural landscape.

In the CAN DO programme area, some of the project funds were invested in a directory, *Local Produce 2003*, to raise public awareness of locally produced goods and foods (Link a in Figure 3). This proved to be an effective promotional document which initiated new consumer demand and the development of an enterprise called Moorfresh Delicatessen (Link b). The associated mobile shop then expanded and employed more staff (Link c) with the view to further expansion and possibly the creation of synergistic effects and the growth of complementary businesses. Thus, natural resources were virtuously linked to social learning and business investment in a way that displayed endogenous growth. Accumulation of natural capital occurred when some of the funding went towards a training day to encourage use of locally produced seeds and green hay (Link a in Figure 4). This was found useful by farmers, who wanted to regain a working knowledge of indigenous seed banks, and it prompted local residents to think about nearby resources and the diversity of their area (Link b). It was hoped that people would start to utilize local resources and enhance the biodiversity of the area, creating a more 'legible' environment in which to live (Link c).

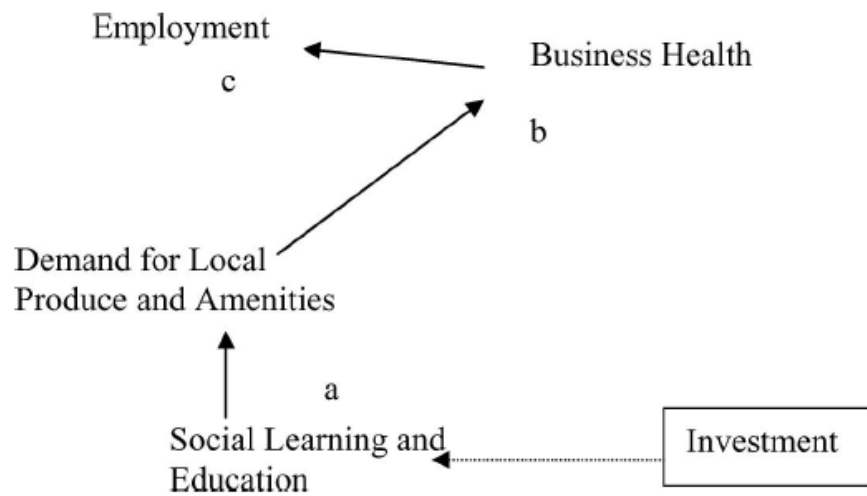


Figure 3. Part of the conceptual diagram that reflects the establishment of Moorfresh in the Howardian Hills example.

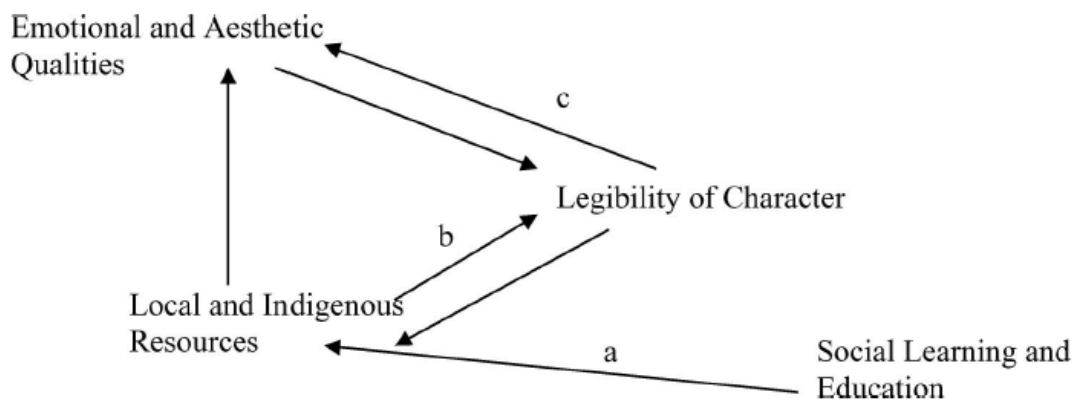


Figure 4. Part of the conceptual diagram that reflects the use of indigenous seeds in the Howardian Hills example.

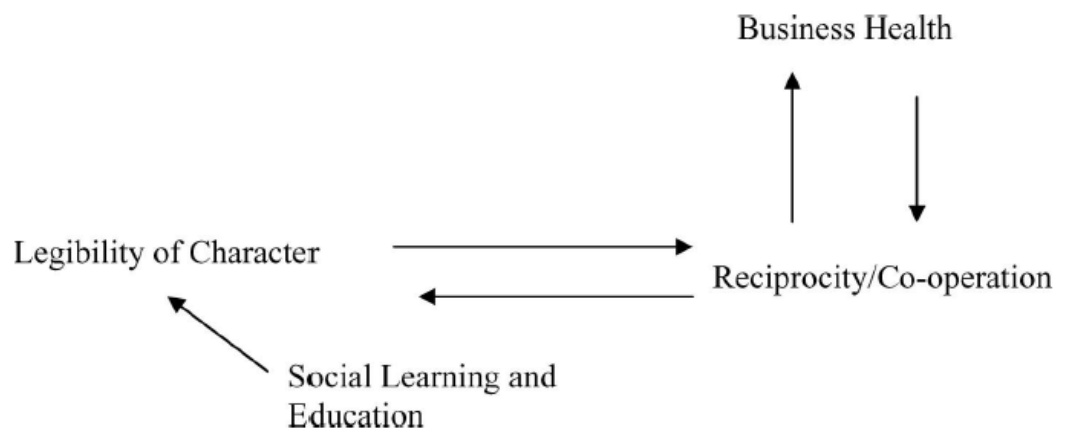
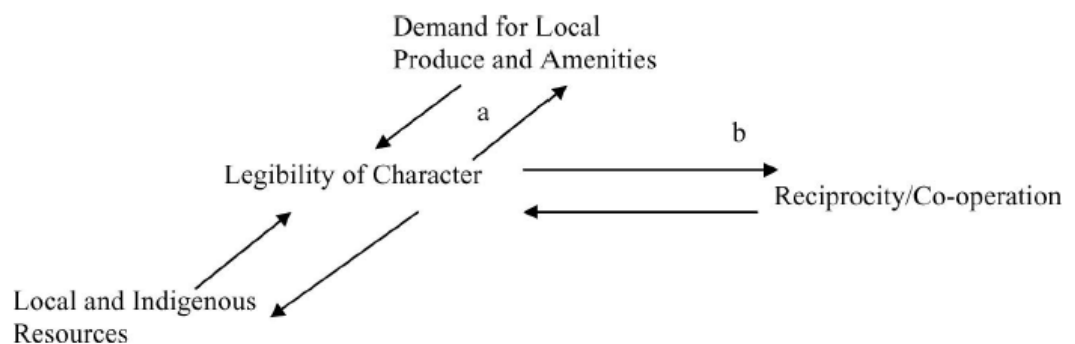


Figure 5. Part of the conceptual diagram that reflects the 'Undiscovered Bowland' project.

Other relationships in Figure 2 can be illustrated by reference to the Forest of Bowland (Figure 5). The ‘Undiscovered Bowland’ project aims to provide investment in educating local residents about the Area of Outstanding Natural Beauty (AONB) in which they live, and thereby enable local communities to celebrate, enhance and promote their local heritage. Co-operation is encouraged between multiple stakeholders in order to market an area for increased recreation and tourism potential. This in turn should encourage the growth of hotels, shops and recreational businesses that will bring greater economic prosperity to the area. There are two positive feedback loops: as co-operation builds there is an increased sense of community and legibility of character; and as numbers of local businesses increase, so greater community co-operation is stimulated. Figure 5 can also be used to illustrate the relationships between cultural and economic capital in the case of the Lancashire Woodlands project. Social education within the local community has actively encouraged people to purchase local timber, resulting in a valorized trade that enhances the local character of the area. As local timber popularity increases, the number of woodland owners and craftsmen also increases to create a more vibrant local economy. Co-operation has been integral to the project, as different woodland stakeholders work together to share information about products and forestry techniques. The more information is shared, the more the local community are eager to purchase their local resources, reinforcing the overall virtuous relationship.



**Figure 6.** Part of the conceptual diagram that reflects the relationships identified from the Bowland festival.

The Bowland festival also raised funds for the local economy through the organization of walks, arts activities and stalls (Link a in Figure 6). These activities drew attention to the cultural capital of the area, in turn encouraging demand for local produce and crafts, leading to enhanced business opportunities that capitalize on Bowland's distinctiveness.

Many local people were involved (Link b) in both organizing this event and producing goods for sale.

A multiple-cause diagram is helpful in describing relationships within landscapes, but is inadequate as a tool for investigating more complex system properties such as thresholds and reversals. For example, there is no way of answering how much demand for local produce will increase before reaching saturation, or what would happen if new products were introduced as regional specialities. Hence, we attempted to develop the multiple-cause diagram into a qualitative model based on loop analysis. As we are only using this framework to explore and illustrate the nature of landscape virtuosity, we assume some simplifications in initial model conditions. Notably, relationships within the virtuous circle are considered to be positive, so that as one part increases so do the variables connected to it. Further, we do not differentiate degrees of virtuosity, albeit in the real world not all variables can be enhanced indefinitely and certain relationships are more important than others at any given time. The method involves connecting variables in a digraph using the three signs of negative (-), positive (+) or neutral (0) relating to the relationship between the different components (Puccia & Levins, 1985). As may be noted in Figure 7, it also incorporates:

self-regulating feedbacks—the natural, social and cultural capitals have self-regulating feedbacks that are a negative influence. For example, natural capital such as water will increase during periods of rainfall but is prevented from accumulating indefinitely by regulators such as evaporation and discharge. Social capital will increase with community centres and social groups but there can only be a finite number of people and amount of money involved;

internal mechanisms—these are comparable to the arrows in the multiple-cause diagram, which show the relationships occurring between the different variables. The difference is that they have a positive (perpetuating) effect or negative (regulating) effect;

external impacts—these are not depicted in Figure 7, but could include an introduced stimulus such as a pecuniary incentive into the economic capital. This would be the positive external impact of investment.



The development of a conceptual model into a multiple-cause diagram with qualitative symbols (often termed a signed diagram) has advantages because the following questions can be explored:

what happens to the system or part of the system if there is an external change?

how stable is the system?

why has the system suddenly changed and what variable could have been altered?

what conditions lead to reversal of virtuous and vicious circles?

what relationships need to be investigated and what elements are not yet understood within the system?

For example, consider what happens to part of the system if there is an external change. Puccia and Levins (1985) describe the pieces of information needed to answer this, and they include:

the forced change, whether this has a negative or positive impact;

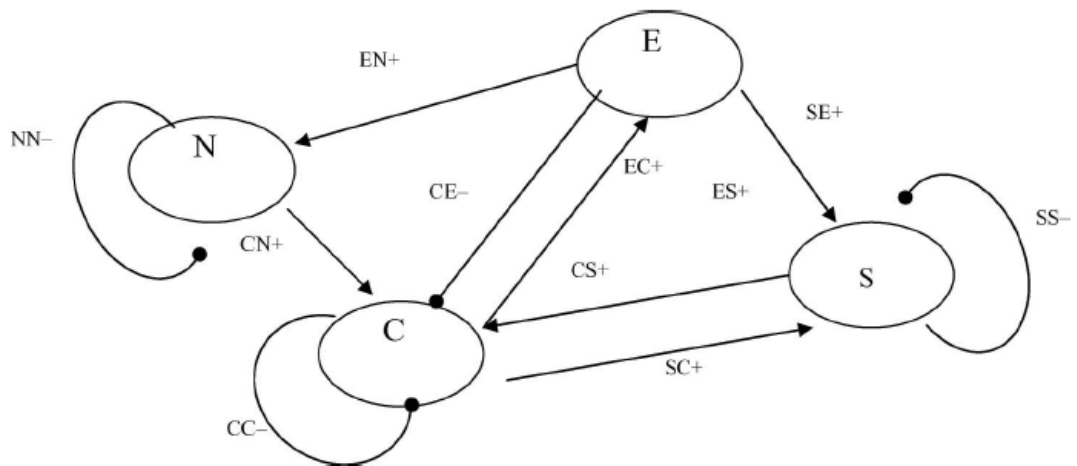
the relationship between the two variables being considered;

the complementary feedbacks present;

the stability of the system as a whole, which is positive in this instance.

If there was a negative impact on the local economy, such as a farm closure, the forced change would lead to a reduction in economic capital. This would then have a knock-on effect and reduce social capital and decrease natural capital. This occurs because the forced change is negative, the relationship between economic capital and the other two capitals is positive, the complementary feedbacks are positive (two negatives make a positive) and the stability of the system as a whole is positive.

This hypothetical illustration may appear somewhat contradictory at first, but it may, for example, give insights into how depopulation has contributed to stark cultural landscapes which are currently cherished. Although the result may be debatable, the approach does demonstrate the value of a structured exploration of the general direction and nature of feedback effects as part of an holistic landscape analysis, even if full quantification is impractical.



**Figure 7.** A signed diagram of the cultural landscape. E is economic capital, S is social capital, C is cultural capital and N is natural capital. The arrows depict positive relationships and the lines with the circle-tipped ends represent negative feedbacks and relationships. The labels describe the relationship and direction. For example, EC+ is the effect of cultural capital on economic capital and it is positive.

Other relationships exist where links could be either positive or negative depending upon the circumstances. For example, consider the possibility that local businesses may help recover and reinforce the distinctive qualities of an area and strengthen its characteristic geographical or historical features in the early stages, but over time the business/tourism sector becomes progressively more commercialized, resulting in undesirable commodification of culture. Developing the model confirms the importance of both labelling variables according to a clear set of rules and determining whether relationships are positive, negative or neutral (D. Morris, pers. comm.). Thus, although the idea of virtuosity includes positive connections, the opposite can become true under certain circumstances. The model is therefore appropriate for investigating landscape systems given different sets of development scenarios and it may aid investigation into changes through time. Figure 7 shows what a qualitative landscape model could look like, simplified back down to four forms of ‘capital’ (unfortunately, one of the limitations to the loop technique is its rapidly increasing complexity as new variables and links are added). For realism, we have included some negative loops which could arise from over-dependence on tourism, in the manner described above. If the model was developed further, it could become possible to work out what would happen to the system if there was a change in the type of any one relationship or whether there were external influences operating to change the system.

## Conclusion

Cultural landscapes are international phenomena, often of great significance, but facing endemic threats. This paper has suggested that sustainability planning should seek to reinforce or reinstate virtuous circles between underlying landscape capitals. Through this mechanism, a self-sustaining momentum can occur that leads to increasing functionality, legibility and vibrancy. Preliminary understanding of the nature of such virtuosity has been based on an exploration of qualitative models which, we suggest, could usefully be developed further. Whilst we acknowledge the conceptual nature of the paper, we consider there is a reasonable case that feedback within ‘regenerative systems’ can help reinforce capital stocks and flows. The contribution of scientists and policy makers is then to determine current trends in ‘vicious circles’ and seek to identify opportunities for reinvigorating virtuous links in order to reverse cycles of deterioration. Public funds are likely to be necessary to initiate the desired purpose—whether for conservation, strengthening, restoration or regeneration—but this is only required until virtuosity becomes self-reinforcing. Whilst it is naïve to suggest that all areas have distinctive and self-contained landscapes with localized socio-economic systems, the virtuous circle model assumes only a moderate and incipient degree of landscape coherence to work effectively. We advocate this approach as a counterweight to the progressive homogenization of rural spaces.

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## Notes

1 As described by Puccia and Levins (1985), th  $\frac{(-)(+)(-)}{(-)} = \text{negative}$ .

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### **3.4 Planning practice for large-scale interventions**

#### *3.4.1 Preface*

This suite of papers emphasises the candidate's concern for the practical delivery of landscape-scale policies and principles. It reflects a longstanding interest in the ways that landscape-scale interventions can be achieved effectively, even in the partial absence of explicit planning powers. The candidate has also examined how landscape multifunctionality can be promoted through integrated governance, and has suggested that this requires:

- A partnership among public, private, and voluntary sector organizations, as well as individuals and communities
- A transdisciplinary approach that blends the views, skills and energies of both professional and lay stakeholders
- A committed lead organization to enthuse the other partners, but one that is also primed to adopt an exit or succession strategy once a programme has become self-sustaining.

The candidate has consistently argued that, due to deficiencies in institutional synchronisation and legal-administrative remedies, ingenuity is necessary in implementing landscape scale strategies (Selman, 2002). The absence of such powers is not necessarily a problem, because it is highly debatable whether overt state intervention would be a beneficial prescription for landscape, other than where firm protection is appropriate. However, it does mean that achieving socially desirable outcomes for 'future landscape' requires flexibility and inventiveness. Thus, the candidate has evaluated how a range of mechanisms can be applied flexibly to achieve 'wider countryside' landscape planning objectives. Specifically, the candidate has related landscape-scale planning to Healey *et al's* (2002) general implementation framework comprising a knowledge base, relational base and mobilisation capacity (Selman, 2001, 2002). In this, the 'knowledge base' includes surveys of resources such as landscape character, and participatory project development to capitalise on codified and uncoded knowledge. The 'relational base' consists of private, public and third sector groups brought together through local forums and transdisciplinary initiatives. The 'mobilisation capacity' comprises numerous enabling devices, such as projects,



plans, grants and controls. Combined, these afford options for the delivery of integrated landscape plans.

The first paper in this section – *Forcing the Pace of Biodiversity Action: a force-field analysis of conservation effort at the 'landscape scale'* – examined farmers' roles in the delivery of biodiversity action plans. Biodiversity planners increasingly recognise the need for delivering action on a 'wider countryside', rather than on a purely site-centred, basis. Ecological processes often take place at the 'landscape scale' and are not sufficiently accommodated within reserves, and a failure to fully reflect this in biodiversity planning has been one of the contributors to species and habitat decline. However, there are generally few powers to enforce compliance with spatial rural land-use strategies, so that biodiversity plans at the landscape scale rely heavily on incentives, advice and goodwill. Not surprisingly, this results in a substantial gap between policy and implementation.

One way of analysing the causes of, and potential solutions to, implementation failure is to examine the barriers to plan uptake. This paper interprets three case-study areas in terms of 'force fields', depicting the nature and strength of negative and positive influences on land managers and conservation staff.

The next paper – *Re-connecting with a Recovering River through Imaginative Engagement* – used an action research approach to examine how a particular method of imaginative engagement might help landscape-scale understanding. Here, local residents were able to explore some of the complex issues associated with a water catchment, such as sustainable flood management and river regeneration. However, it also had a wider intent, particularly in relation to the potential for local landscapes to serve as vivid settings for transformative learning. It thus contributed to the emerging idea of landscapes as social-ecological-epistemic systems (*qua* resilience theory) (McCarthy *et al*, 2011). In this research, a multi-disciplinary team (led by the candidate) conducted a series of creative writing workshops, focused on a "recovering" river, in a postindustrial area of northern England. Participants in the workshops found the process a positive experience and reported changes in their knowledge, attitudes, and actions about the use and management of river environments locally and more generally. The "catchment consciousness" of members appeared to increase, and their

raised levels of interest led them to invest time in researching the history and geography of the river.

This is followed by a paper – *Community participation in the planning and management of cultural landscapes* – arising from research for the (former) Countryside Agency into the ways in which local citizens and stakeholder groups could take responsibility for managing landscapes. This paper examines a variety of situations in which multiple stakeholders have actively participated in the protection and maintenance of ‘cultural’ landscapes. Particular attention is given to: the role of stakeholders, participation by communities-of-interest and communities-of-place; the management of specific landscape features; and policy and funding frameworks. The research concluded that community-based initiatives are unlikely to substitute for formal management of extensive protected areas, but that participatory approaches can be effective in more targeted situations.

The final paper in this section reflects the importance attributed by the candidate to the European Landscape Convention (ELC). This paper arose from a keynote presentation to the biannual conference of the Permanent Conference for the Study of European Rural Landscapes, which in turn drew upon contract research in which the candidate had been directly involved (Roe *et al*, 2009; Roe and Selman, 2010), as well as other contemporaneous research reports. Although, in certain respects, a rather limited instrument, the ELC is nevertheless a significant step towards raising the international profile of landscape. The paper emphasises the opportunities created by the ELC’s promulgation of proactive planning and management, and a fuller recognition of “ordinary” landscapes. The paper argues that, as we improve our understanding of drivers of change, so we require new scientific capacity in order to facilitate strong forward-looking action that is related to sustainability, multifunctionality and stakeholder participation. This paper addresses the importance of landscape objectives as a way of legitimating and demonstrating future strategies for planning, protection and management. In a context of cultural, economic and environmental uncertainties, it considers how the ELC can provide a basis for accepting and influencing landscape change rather than simply seeking to preserve inherited patterns.

### 3.4.2 Output 6

Watts, K and Selman, P (2004) Forcing the pace of biodiversity action: a force field analysis of conservation effort at the landscape scale, *Local Environment*, 9(1), 5-20. (This paper arose from a PhD under the candidate's supervision; the candidate contributed actively to the structure, content and revision of the paper. Candidate's contribution: initiating, 40% [Selman initiated and supervised the research, which was undertaken by Dobson]; leading and authoring the output, 50%)).

#### **Introduction**

The conservation of biodiversity has historically been based on the protection of a series of representative sites. Yet, despite a long history of site safeguard and management, overall biodiversity has continued to decline. One explanation is that isolated fragments of natural and semi-natural habitat cannot by themselves sustain the life-cycle needs of critical species, and so increasing importance is now attached to maintaining favourable conditions in the surrounding 'wider countryside'. However, given that most countries' land-use planning systems are unable to control agricultural or forestry activities, wider countryside conservation strategies must make heavy reliance upon non-statutory mechanisms. There are thus considerable difficulties in translating biodiversity plan proposals into effective achievements on the ground. This paper reports on some UK examples of biodiversity planning and considers the barriers and opportunities associated with plan implementation.

#### **The Challenge of Biodiversity Planning**

Biodiversity has been defined as "all hereditarily based variation at all levels of organisation, from the genes within a single local population or species, to the species composing all or part of a local community, and finally to the communities that compose the living parts of the multifarious ecosystems of the world" (Wilson, 1997, p. 1). This inclusive definition of biodiversity has two key implications for action planning. First, planning must take place within a wide geographical frame in order to maintain populations of sufficient demographic vitality and genetic variability. This

frame is often referred to as ‘landscape-scale’ planning, in recognition of underlying landscape ecological principles and of the expansive (at least several kilometres wide) spatial units of analysis. Second, planners must not restrict their concern to rare or threatened species but must embrace the whole of the natural world from the commonplace to the critically endangered (UK Local Issues Advisory Group, 1997). Thus, action must be directed at geographical zones sufficiently extensive to embrace whole communities with populations, or ‘metapopulations’,<sup>1</sup> large enough to avoid being enfeebled by ‘genetic drift’. Planners must also have regard to the likelihood of significant climate change in the 21st century, and thus maintain diverse and connected habitat so that species can adjust in response to changing regimes of temperature and wetness.

In partial fulfilment of the commitments made at the Rio Earth Summit, the UK Government published the UK Biodiversity Action Plan (BAP) (HM Government, 1994), which sets out the broad strategy for conserving and enhancing wild species and wild habitats in the UK for the next twenty years. The overall goal of the Action Plan is to conserve and enhance biological diversity within the UK and to contribute to the conservation of global diversity through all appropriate mechanisms. Subsequent elaborations have been published, updating progress and giving greater definition to particular tasks (e.g. DEFRA, 2002). The implementation of the UK Action Plan has been substantially entrusted to a system of Local Biodiversity Action Plans (LBAP), which have been promoted at county level as a means of ensuring translation of the national strategy into effective action. Government monitoring, however, continues to indicate net declines in biodiversity and, while there appear to have been recoveries in some populations, the overall trends give cause for concern (Haines-Young *et al.*, 2000). As a result, policy effort is being directed at conserving and enhancing the wide variety of biodiversity in the UK and reversing current declines.

### **Implementation of Policies and Plans for Biodiversity Action**

It is widely recognised that the intentions of those devising policy and plans are not always easily translated into effective results on the ground. This is true in mainstream urban planning, where strong powers of control exist, and so is likely to be even more pronounced in respect of rural land use where far greater reliance is placed on non-statutory mechanisms and voluntary compliance. In particular, the successful

implementation of LBAPs is heavily dependent upon formal and informal partnerships between land managers, non-governmental organisations and public sector organisations. The UK Local Issues Advisory Group (1997, p. 5) notes “the need for a ‘lead body’, albeit success depends on ownership by all parties who have a key role in delivering the product”. They suggest that local authorities are ideally suited to provide the necessary lead for this process, working with statutory conservation and countryside agencies, local and regional voluntary organisations, land managers, businesses, local record centres and those with specialist knowledge of local wildlife.

According to Gilg (1996), planning of rural land has conventionally involved ameliorating the deleterious effect of forces for change by use of a ‘spectrum’ of options. While this spectrum involves some statutory powers, action at the landscape, rather than site, level will primarily depend on voluntarism and cooperation. Consequently, biodiversity action must rely on broadly ‘neutral’ voluntary methods and more positive incentives (Table 1). The England Rural Development Programme (Defra, 2001) emphasises the importance of ‘positive’ mechanisms—notably existing Environmental Land Management Schemes (ELMS) such as Environmentally Sensitive Areas and Countryside Stewardship— though the ‘neutral’ planning options of exhortation, advice and demonstration will continue to play a significant role in the wider countryside.

Despite the implementation challenges of joined-up biodiversity planning in the wider countryside, some pioneering initiatives have been and are being attempted. As an example of spatial non-statutory planning, English Nature’s Habitat Restoration Project aimed to adopt a more holistic landscape-scale approach to biodiversity conservation, despite being entirely dependent on the voluntary principle and the use of existing grant aid mechanisms. Individual vision maps for each of four trial areas were drawn up in consultation with local landowners, nature conservation organisations and other land management agencies through a local steering group. The voluntary principle operated throughout and project officers used the maps as an educational tool to clarify what the informal plan meant to individual landowners (Thomas, 2000). More recently, English Nature have also established experimental ‘Lifescapes’ project areas, where vision maps are being used as a basis for inter-agency collaboration and targeting of agri-environment expenditure, in order to facilitate more concerted efforts at biodiversity promotion.

TABLE 1. The Gilg/Selman spectrum of planning options

Positive	Neutral	Negative
Public ownership or management of land via long-term leases	Voluntary methods based upon exhortation, advice and demonstration, but often backed up with the threat or promise of one of the other methods	Regulatory controls, mainly negative, for example, planning permission
Financial incentives to encourage production and/or desirable uses		Monetary disincentives to discourage production and/or undesirable uses

*Source:* adapted from Gilg (1996).

### **Framing the Implementation Problem**

In giving effect to biodiversity plans on the ground, the practitioner is inevitably drawn into the need for effective implementation. However, both policy-makers and planners have widely reported a policy-implementation gap. Thus, the intentions of those devising policy ‘outputs’ are not always easily converted into ‘outcomes’, leading to an ‘implementation deficit’ (Weale, 1992). This has been represented in terms of a gap between policy-makers and administrators (Hargrove, 1975) and between organisations and ‘street-level’ bureaucrats or target groups (Winter, 1990; Wilson *et al.*, 1999). As just noted, these problems are compounded in relation to ‘wider countryside’ settings where reliance is made on relatively weak powers.

Our current concern is with the nature of implementation deficits associated with landscape-scale biodiversity action, and we have explored this problem with two main methods. One is the general area of socio-environmental research referred to as ‘barriers theory’, that is, the study of generic types of impediment (‘barriers’) and opportunity (‘bridges’) that influence the nature of the policy implementation gap. While this approach is widely referred to by practitioners and theoreticians, there is little critical literature, and its fullest exposition remains that of Trudgill (1990). Second, we draw on a further technique, which has latterly been adopted by sustainability planners, namely, ‘force-field analysis’. This has a respectable pedigree in business planning (e.g. Thomas, 1985), but its applicability has only relatively recently been recognised by environmentalists (e.g. International Council for Local Environmental Initiatives, 1996).

Trudgill (1990) argued that logical analysis of complex environmental policy issues can be aided by categorising barriers into six major groups—agreement, knowledge, technology, economic, social and political. This taxonomy is not rigid, however, and many of the barriers can be seen to interact in a rather fluid manner. The usefulness of Trudgill’s framework for categorising opportunities and barriers is also demonstrated by Vigar (2000, p. 25), who used it as a “heuristic device to shed light on policy implementation opportunities and difficulties”. Trudgill (1990) has also drawn attention to the ways that barriers sometimes operate in a sequential or compounding manner, an observation of particular relevance to the current study. For instance, the limitations of agri-environment schemes may be classed as an *economic* barrier; however, the factors underlying the problem might be linked with inadequate *knowledge* of the limitations, *disagreement* over the significance of the problem or a lack of *political* support to improve the situation. Similarly, inadequate management of protected areas often derives from a lack of funding (an *economic* barrier), though it may be more closely linked with a poor *knowledge* of appropriate land management options, a lack of *technological* expertise or *disagreement* over management practices.

Before applying this method to specific biodiversity plans, it was first tested on national biodiversity targets identified in the UK’s Biodiversity Challenge Report. For this, the report’s findings were re-worked according to agreement, knowledge, technological, economic, social and political issues (Table 2). The most striking message drawn from this analysis was that, despite extensive historical records of biodiversity, a *lack of information or research* is considered to be a major constraint for 76% of species action plans and 50% of habitat action plans. More expected were the major difficulties posed by *agriculture policy*, which leads to problems for species such as the stone-curlew (*Burhinus oedicnemus*) and marsh fritillary (*Euphydryas aurinia*). Somewhat more surprising, is a *lack of commitment* to deliver BAP targets in over half of the habitat plans examined. Similarly, the *limitations of agri-environment schemes* and the *lack of resources for raising awareness or providing advice*, both key implementation mechanisms, are causes for concern. It is also notable that inadequate management of protected areas (either through a lack of funding or enforcement) is an issue for one third of the habitat and species plans examined.

Following the identification of the initial opportunities and barriers to implementation, our next step in analysing biodiversity plans was to undertake a force-field analysis.

Force-field analysis is an “analytical exercise used for priority setting and for selecting and assessing action strategies” (International Council for Local Environmental Initiatives, 1996, p. 108). The origin of force-field analysis is generally attributed to Kurt Lewin (1951), an experimental social psychologist. Weisbord (1987) describes how Lewin saw unsolved problems frozen in a field of forces, which pushed towards or away from solutions. Briefly, the forces driving towards and those restraining problem resolution reach equilibrium, and are represented diagrammatically by arrows of varying length, width and direction (to represent forces) and a status quo line (representing equilibrium). A problem is ‘moved’ by increasing driving forces or reducing restraining forces.

### The Case Studies

In order to explore the barriers and bridges to landscape-scale biodiversity planning, we investigated progress in three case-study areas. Case-study selection was initially based upon ‘Natural/Character Areas’, as defined by English Nature (1993) and the former Countryside Commission (1995) and more recently also reflected in the Countryside Character Initiative. It is suggested that these areas offer a more effective framework for the planning and achievement of wider countryside conservation than do administrative boundaries.

TABLE 2. Constraints on the achievement of biodiversity targets categorised within the barrier framework

Constraint	Significance (% of plans)		Barrier category
	Habitats	Species	
Inadequate information/research	50	76	Knowledge
High-level agriculture policy	57	29	Political
Limitations of agri-environment schemes	50	36	Economic
Lack of commitment in delivery	57	14	Agreement
Inadequate management on protected areas	36	32	Economic
Inadequate controls on water management or remedial action	43	7	Technology
Lack of resources for raising awareness or providing advice	14	20	Economic
Inadequate habitat protection or enforcement	14	17	Political
Lack of appropriate management of ‘abandoned’ land	7	15	Technology
Lack of habitat re-creation/recovery	0	15	Technology
Failure to develop policies to support natural coastal erosion	7	5	Political
Failure to balance needs of recreation and conservation	0	10	Agreement
Development planning failure	7	2	Agreement
Failure to influence other areas of policy (water/minerals policy)	7	2	Political

Source: adapted from information contained in Biodiversity Challenge (2001), formerly available at < <http://www.biodiversity-challenge.org.uk/html/report.htm> > ).



The case-study approach generally calls for the researcher to make a conscious and explicit choice about case selection from a large number of possibilities (Denscombe, 1998). Consequently, from a total of 120 Natural Areas within England, selection was based on criteria of ‘suitability’ and ‘convenience’ (cf. Patton, 1990; Denscombe, 1998). This selection process ensured that each study area varied in terms of habitats and land use although, as biodiversity planning is still at a comparatively embryonic stage, the sample of acceptably advanced plans was quite constrained. Selection was also based on pragmatic considerations, such as lying within a reasonable distance of our study base. The selected areas were also chosen to represent varying degrees of landscape destruction and modification on McIntyre and Hobbs’ (1998) landscape alteration continuum (Figure 1).

Three areas were eventually selected (Figure 2). First, as an example of fragmented/relictual habitat, with a high degree of habitat destruction and modification, we included the Culm Natural Area in south-west England. Second, as a case of fairly intact or variegated habitat with a low degree of habitat deterioration and a medium degree of modification we chose the Exmoor Natural Area in north Devon and west Somerset. Third, to represent a variegated/ fragmented landscape with a moderate degree of habitat destruction and a middle to high level of habitat modification we included the Blackmore Vale located within the Wessex Vales Natural Area in Dorset. To further refine the area of study and define the specific wider countryside conservation objectives, the research focused upon particular habitats or areas within each Natural Area, rather than the area as a whole.

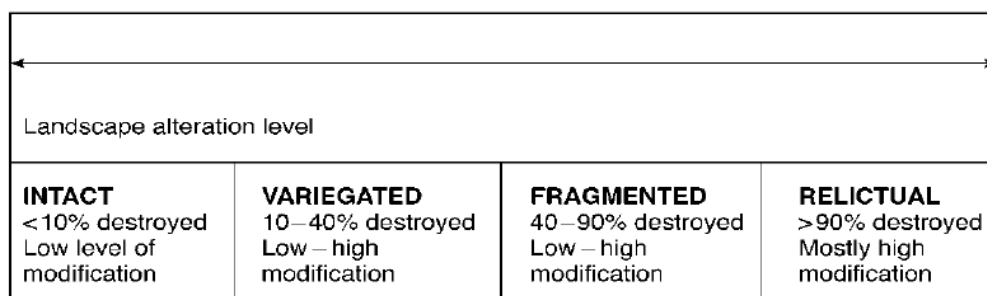


FIGURE 1. Landscape alteration level continuum. *Source:* based on McIntyre and Hobbs (1998).

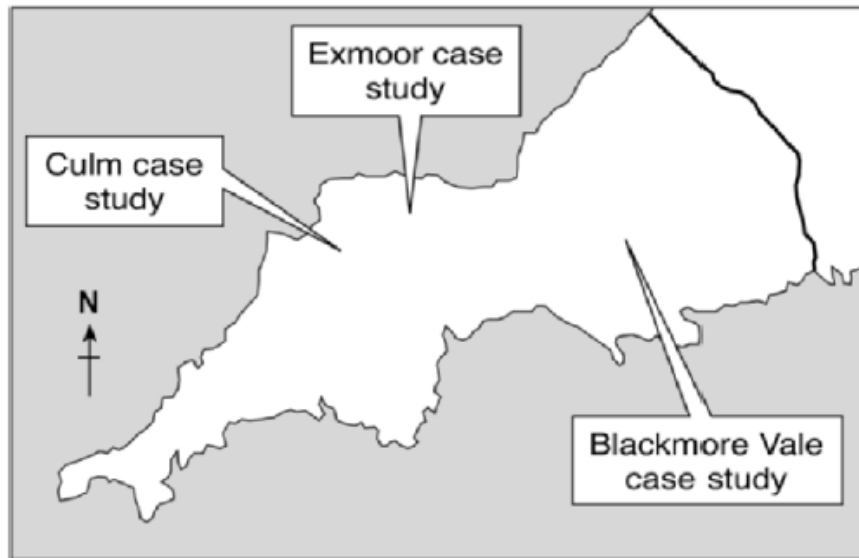


FIGURE 2. Location of case-study areas in south-west England.

The case studies involved interviewing key actors involved in LBAP implementation. The selection of key actors was based upon a purposive sampling strategy, as this allowed a clearer focus on those individuals who were most likely to answer the research questions (Robson, 1993). With a prior knowledge of the conservation process and the information contained in LBAPs, it was possible to identify many of the key organisations and actors involved in the implementation of the plans. In addition to those key actors who were defined by role, a small number of others were suggested during the course of the research.

A content analysis of the pertinent LBAPs was undertaken to extract relevant ‘wider countryside’ objectives (defined on the basis of maintenance, improvement and reconstruction measures relevant to particular points on the landscape alteration continuum). Once the relevant objectives were identified, the associated implementation actions, where available, were categorised as ‘opportunities’ or ‘barriers’ within Trudgill’s framework. For example, an implementation action describing the need for a detailed habitat survey suggests a possible lack of habitat knowledge, and would be categorised as a *knowledge barrier*, whereas an implementation action aimed at increasing the targeting of grant aid schemes would be categorised as an *economic opportunity*.

The first stage of the study was to identify specific forces facilitating or hindering the achievement of a goal, and this was operationalised by using the LBAP content analysis

to establish *initial* opportunities and barriers and the construction of a *draft* force-field matrix with the forces classified according to Trudgill's framework. This draft was refined through a series of interviews with key actors, and it served as a series of highly effective prompts. The summary did not identify the specific findings of the content analysis, however, in order to avoid 'leading' the interviewees. The semi-structured discussions focused on the force-field matrix with the aim of identifying:

- Actual opportunities and barriers experienced by key actors
- Examples, to illustrate each opportunity and barrier
- Possible causes behind each opportunity and barrier
- Links between each opportunity and barrier.

These discussions were taped and transcribed, and were coded by breaking down the transcript data into units of analysis for categorisation (cf. Denscombe, 1998), using the qualitative software package NUD.IST (Non-numerical Unstructured Data Indexing, Searching and Theorising) (Qualitative Solutions and Research, 1997). The opportunities and barriers identified by the coding and categorising process were presented within individual case-study reports. These reports entailed rewriting all the case-study results into a predominantly descriptive framework and this process of reflection on the interviews allowed the refinement of a set of generalisations explaining themes and relationships in the data.

The next stage of analysis was to ask interviewees to indicate the significance of each opportunity and barrier. The scoring system, based upon a summated rating or Likert scale, measured the significance of each opportunity (positive score) and barrier (negative score) as perceived by each interviewee. The significance score for each opportunity and barrier obtained from the interviewees allowed the construction of a final force-field analysis framework. This output depicted *actual* opportunities and barriers, along with their mean score.

### **Evidence from the Case Study Areas**

Interviews were conducted with individuals identified as being actively involved with the conservation of the selected habitats within the case-study areas. No particular

problems concerning access or co-operation were experienced, and most key actors were highly sympathetic to the research project and were keen to assist. The range of interviewees is summarised in Table 3.

TABLE 3. Distribution of interviewees by case study area

	Culm	Exmoor	Blackmore
County Wildlife Trust	3	1	2
Farming and Rural Conservation Agency	1	1	1
English Nature	2	1	2
Environment Agency	1		1
Farming and Wildlife Advisory Group	1		1
National Farmers' Union	1		1
National Trust		1	
Farmers		1	
National Park/Local Planning Authority	2	2	
Countryside Management Service	1		
Forestry Organisation	1		
Research and other agencies	2		

The issues explored in these interviews are illustrated with specific reference to the conservation of Culm Grassland within the Culm Natural Area, and are summarised in terms of a force-field analysis (Figure 3). Arrows in the force-field diagram represent the presence of different opportunities and barriers. Relative significance of forces was determined on the basis of the means of scores assigned by interviewees on a 1–5 Likert scale. For clarity, the thick arrows represent the ‘most significant’ opportunities and barriers, with a mean score of 3.5 or greater, while the thinner arrows represent the ‘less significant’ forces with a mean score of under 3.5.

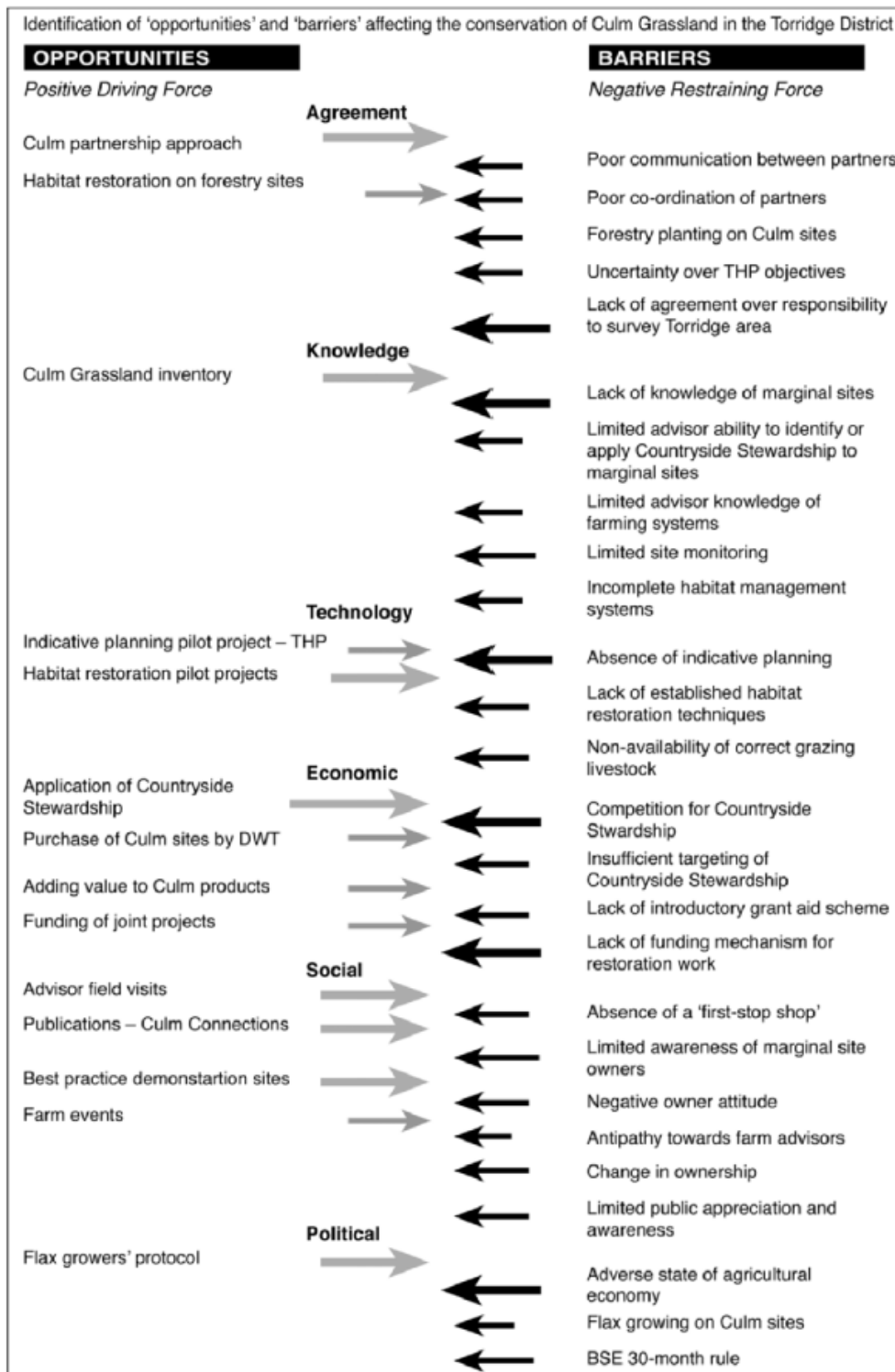


FIGURE 3. Force-field analysis for Culm Grassland.

In the Culm, existing grassland sites have been identified by the extensive *Culm Grassland Inventory* (Hughes and Tonkin, 1997), which is widely regarded as a significant contribution to effective biodiversity conservation planning. However, this focuses on larger, high-quality sites, and there are continuing problems associated with the many marginal sites, a proportion of which will have restoration potential and could

contribute to landscape connectivity. A sound knowledge of these latter sites is necessary to meet 'wider countryside' conservation objectives by extending, linking and buffering existing core areas. The information provided by the Inventory led to the establishment of the Culm Conservation Partnership, which is considered to be a significant 'opportunity' in the force field. The dependency on a partnership approach also points to the importance of communication between, and co-ordination of, the multiple organisations involved. The funding of joint conservation projects is an important opportunity associated with the partnership, whereas disagreement over responsibility to survey certain key areas currently represents a barrier. The recognition and acceptance of problems in the area varies: for example, there was still evidence of disagreement over woodland establishment on marginal sites, but a new consensus over discontinuing the planting of flax (the 'flax growers' protocol'). There is also a strong recognition of the threats posed by recent agricultural adversities, notably the BSE crisis of the late 1990s. As well as damaging the local stock-rearing sector generally, the resultant 30-month rule made it very difficult to rear cattle on the nutrient-poor Culm grassland sufficiently quickly to sell on. Hence, there is widespread concern about the risk of structural changes to farms, especially consequent on ownership changes, which may lead either to further intensification or to neglect of Culm sites. There is a strong consensus about the need to support the agricultural system on which the grasslands depend, and the main, though perhaps inadequate, opportunity is through the targeting of Countryside Stewardship grants. The fact that a majority of the known area of important grassland is afforded some protection represents a major opportunity, whereas increased competition for rationed CS funds poses a conservation barrier, especially on the smaller and more marginal sites, which are often important for habitat continuity. Thus, while 67% of the area is safeguarded to some extent, this is the case for only 38% of individual sites, reflecting the relatively poor protection of numerous smaller sites. Some interviewees felt that a lower-entry-level, less bureaucratic grant aid scheme was necessary to attract more cautious farmers. While there is also strong agreement over the desirability of increasing farm incomes by adding value to locally distinctive farm products and capitalising on the image of the area, this approach has so far yielded few actual benefits. The fact that the grasslands are not particularly visually attractive may pose a barrier to this line of recovery. Advisory field visits play an important role in conveying management knowledge, securing conservation agreements and raising the awareness of the farming community. However, the view of some interviewees is that

certain advisors lack appropriate agricultural knowledge, limiting the effectiveness of field visits. Coupled with the advisory service is the production of a newsletter, *Culm Connections*, and a number of demonstration sites and farm events. However, these again focus on the large, high-quality sites, resulting in limited awareness among farmers on more marginal habitat. Inevitably, across the whole area, there are greatly varying levels of farmer awareness of and sympathy for biodiversity conservation objectives.

Concern has also been expressed about the limited amount of site monitoring to assess the effectiveness of the specific conservation strategies. It appears that more careful effort is needed in targeting action, including marginal but strategically important sites. This recognition has resulted in the establishment of the Torridge Headwaters Project, which is a pilot exercise in indicative planning for identifying, restoring and expanding Culm sites within a small trial area. For example, applications for Countryside Stewardship grants within the area are accorded a higher priority. However, shortcomings in problem acceptance and agreement led to withdrawal of funding for this project. Interviewees suggested that it might have been more successful if underpinned by the operational involvement of a wider set of partners, in order to increase credibility, appreciation and understanding.

A particular scientific barrier has emerged in the form of a lack of tested restoration techniques for these particular grasslands. Fortunately, there is reasonable confidence that the grassland is fairly robust and resilient and that marginal sites can be recovered through sympathetic management rather than expensive restorations. However, where land has been subject to substantial agricultural improvement, there are some difficult restoration challenges associated with reducing soil fertility levels. One proposal is to remove 85% of the organic mineral layer, but this is neither economically nor socially attractive. Indeed, it has been suggested that restoration is considerably easier on forestry land as planting often took place on Culm sites and soil changes have been relatively minor.

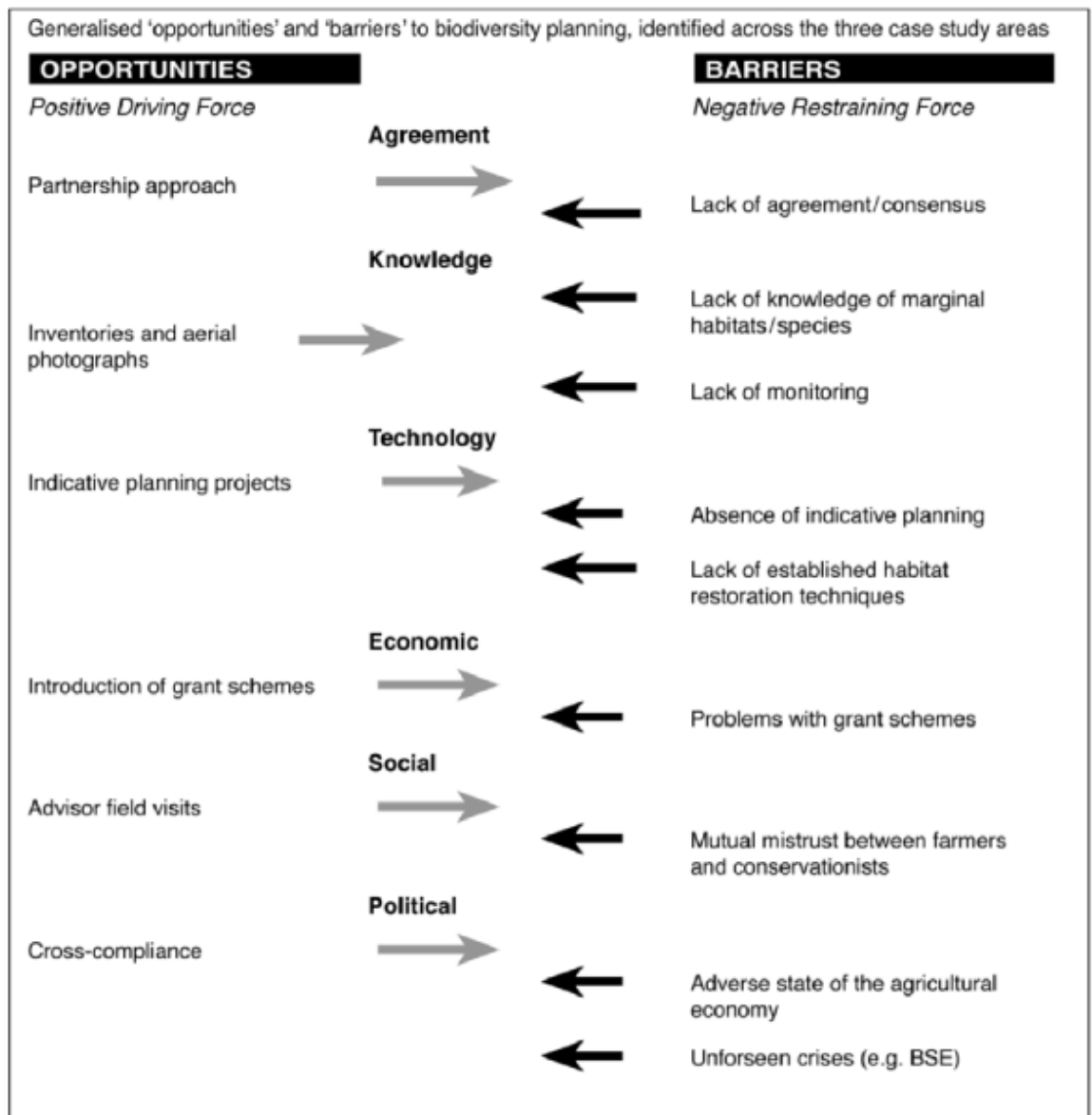


FIGURE 4. Generalised force field showing principal opportunities and barriers for all three case-study areas.

This type of analysis was undertaken for all three case-study areas, and enabled the production of similar 'force fields'. These have been condensed into a generalised diagram (Figure 4) summarising the range of implementation issues. In broad terms, driving forces appear to be associated with the use of partnerships, indicative planning and the neutral and positive planning options (Figure 1). However, some (such as 'cross-compliance') really depend on policy and even regulatory reform before landscape-scale planning can more effectively be addressed. Restraining forces relate in the main to human factors (e.g. disagreements, mistrust, economic hardship) and technical factors (e.g. bureaucracy, information gaps). The tension seems to be rather



unequal, with barriers appearing to outweigh opportunities, though there is cause for optimism where barriers can be tackled in a creative fashion. The British agriculture industry continues, however to experience shocks (e.g. Foot and Mouth Disease), which are bound to alter perceptions and behaviours towards concerted biodiversity planning.

## **Discussion**

Landscape-scale planning needs to consider the wider forces operating beyond the site level. While biodiversity action planning expands on conventional protectionist conservation policy, Green (2000) has remarked that even the BAP approach concentrates too heavily on specific, often statutorily designated, sites where partners feel they have greatest control. While this emphasis prevails, it is doubtful whether “BAPs can be anything other than a short term solution to stem declines. The BAP approach addresses symptoms rather than causes” (Green, 2000, p. 47).

This study has explored the forces impinging on attempts to implement biodiversity plans for the wider countryside. It has shown that, while there is extensive knowledge of biodiversity in the English countryside, much of this is focused on large, high-quality sites and a limited number of species, rather than the more marginal habitats and species which often have important linking and buffering roles in the landscape. Some ‘wider countryside’ conservation efforts suffer from a lack of knowledge regarding habitat restoration techniques, though this may be a consequence of poor dissemination rather than lack of primary research. It is clear that partnership approaches are essential to biodiversity planning, and the delivery of benefits on the ground is strongly dependent on multiple partners reaching agreement and building consensus. However, our experience of BAP partnerships—perhaps because they had only recently been created—was a frequent lack of agreement and consensus over a range of issues.

Similar observations have been made by Adams *et al.* (1994), who suggested that many conservation professionals prove unable to identify specific developments for the effective promotion of local action, typically because of their failure to comprehend and operationalise clear links between strategy and detail, resulting in ill-defined local conservation goals.

In the UK and many other countries, the main opportunity to enjoin the efforts of farmers, given the lack of compulsion, is grant schemes. However, there are inherent

problems with many of these schemes, in particular the heightened competition for limited resources. Field advisors may help in optimising the deployment and utilisation of these grants, but here we found a degree of confusion among landowners and farmers, and a ‘first-stop shop’ approach was proving popular in the Blackmore Vale. Similarly, the production of an indicative plan provided a means for focusing grants and the efforts of field advisors. In this paper, we have concentrated on the ‘problem definition’ aspects of biodiversity planning rather than means of overcoming barriers. Landscape-scale planning is a relatively embryonic field and, before wider countryside plans can be successful, it will be necessary to refine our understanding of generic barriers and bridges to their effective implementation. However, it is clearly necessary to move beyond problem analysis towards problem resolution, and our approach is intended as an initial step towards devising more cogent strategies. Thus, according to Ajimal (1985), force-field analysis offers an opportunity to see situations as being potentially changeable, if the forces can be identified and if effort is directed to changing their direction or strength. Initiators of change often assume that they have all the relevant information needed to make decisions and that those who will be affected by the change have the same facts, when neither assumption is correct (Kotter and Schlesinger, 1979). Ajimal (1985) suggests that a force-field analysis will help to make the options clearer and bring a vague decision into focus.

Trudgill (1990) likewise advocated that environmental problems could be understood in terms of their ‘pathways’, from an initial ‘problem recognition’, through ‘problem acceptance’ to a ‘resolution proposal’, and then from ‘resolution acceptance’ to ‘implementation acceptance’ and finally to ‘problem resolution’. While such an idealised sequence would obviously be more circuitous in practice, we did identify ways in which a sharply framed account of a collectively perceived problem could lead to more purposeful partnerships and coordinated action. For example, the challenge of reconstructing ‘connecting and buffering’ habitats could be facilitated by the preparation of an indicative plan, improved targeting of grant aid and advisory measures, and better dissemination and application of extant knowledge on restoration. One advantage of a careful analysis of positive and countervailing ‘forces’ is likely to be a shared and sharpened appreciation of ‘problem pathways’ among partners. Effective biodiversity action is not only about scientific knowledge and conservation management. Especially at the landscape scale, it involves a network of human and

institutional interests, and of people with various economic and environmental concerns trying to make efficient and integrated use of limited resources. Actors in these situations need constantly to overcome barriers in order to realise opportunities. A proper understanding of the field of forces within which biodiversity planning occurs can help frame problems and focus on their solution, and thereby help to force the pace of effective action.

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### 3.4.3 Output 7

Selman, P., C. Carter, A. Lawrence and C. Morgan. (2010a) Re-connecting with a Recovering River through Imaginative Engagement. *Ecology and Society* 15 (3): 18. [online] URL: <http://www.ecologyandsociety.org/vol15/iss3/art18/> (Candidate's contribution: initiating, 70%; leading, 70%; authoring, 50%. The candidate was principal investigator of this project, and led on writing the paper and coordinating revisions).

## **INTRODUCTION**

Many rivers have been intensely modified and often degraded as a result of urban growth, flood control, and industrial development. Whereas the river would once have been the social and economic focus of an area, and communities would have accustomed themselves to its vagaries, in many urbanized areas it has now virtually been forgotten. Yet rivers provide critical ecosystem services (Zedler and Kercher 2005, Bohensky *et al.* 2006) and can be a focus for people's pride in place and for the identity of an area (Pedroli 2005), especially where stakeholders are engaged in processes of river restoration.

Since the mid-1970s, EU Directives have required action on river quality (Kaika 2003). Especially since the EU Water Framework Directive of 2000 (Commission of the European Communities 2000), the initial focus on water chemistry has evolved into a broader concern for community participation (White and Howe 2003). The organizations responsible for river management increasingly show a strong concern for social inclusion, as disadvantaged sections of society are disproportionately affected by water pollution and flooding and yet are often relatively unheard in the decision-making process (Wilkinson 2005). Recent exceptional floods in Europe have been related to a range of factors including climate change, river engineering, floodplain development, rural land conversion, and efficient modern agricultural land drainage (EEA 2005, Marsh and Hannaford 2007). This has resulted, amongst other things, in policy pressure to curb development in low-lying areas and to promote "soft engineering" solutions to flood management (e.g., Adams *et al.* 2004, Moss and Monstadt 2008).

This paper reflects on the experience of involving communities in dialogues about choices concerning river catchments through a participatory approach known as imaginative engagement. The catchment is a high order system, and lay people may lack interest in or comprehension of the abstract, complex, strategic, and long-term concepts associated with river basin plans. Also, stakeholders may need considerable help to imagine what a future river system would look like, as the modern watercourse is often a residual vestige of a forgotten landscape. Furthermore, local communities may have experienced severe floods and are looking for reliable and tested options to reduce the risk of flooding; hence they may less readily be convinced by “soft” than “hard” engineering solutions.

Our research thus centered on enabling participants to consider large-scale processes and take long-term perspectives, whilst imagining how their river might once again be valued, cared for, and used rather than forgotten or disparaged. We experimented with an approach based on techniques of imaginative engagement, in the expectation that this would help people grasp important functions and meanings and identify with possible future catchment management options. These methods use the arts to communicate and help people engage with complex and sometimes abstract issues, by providing icons and metaphors, and by giving space to the imagination and emotions. In this instance, we were curious to know whether the methods could help rekindle a lost capacity to sense the ways in which rivers work—people’s alleged “catchment consciousness” (Wilkinson 2005).

## **LITERATURE REVIEW**

The EU Water Framework Directive (Commission of the European Communities 2000) has created an important new context for seeking communities’ views and knowledge in relation to river basin planning. Despite a long period of settlements “turning their backs” on rivers and becoming disconnected from their watersheds (Stokman 2008), people still associate them with a range of positive and negative values (Dalrymple 2006). Murray and Myant (2006), for example, propose that the interests of the public typically tend to be local whilst those of professional stakeholders tend to be system-wide.

A variety of official and unofficial guidance has been produced on integrated river management in the United Kingdom (e.g., Department of Environment, Food and Rural

Affairs 2006), and numerous initiatives exist including river trusts, catchment sensitive farming, catchment flood management plans, and river basin planning with its associated Liaison Panels (see Piper 2005). In addition, several projects have provided recent UK/EU evidence of participatory river basin management, such as URBEM (Newcastle City Council 2005), Mersey Valley Initiative (Kidd and Shaw 2000, Tippett 2005), and Cycleau (Devon Wildlife Trust 2005). There has also been wider European experience of grassroots leadership of water and environmental management, for instance in relation to farming practices (Blomqvist 2004) and multi-stakeholder river contracts (Rossillon 2004).

Effective community engagement in river basin futures has often failed to secure social outcomes either because involvement has been restricted to a small circle of influential stakeholder groups (Junker *et al.* 2007), or because of institutional barriers (Moss 2004, Wilkinson 2005), or because decision-makers presume a “deficit model” of public knowledge (Eden 1998, Eden and Tunstall 2006) and thus over-rely on the communication of scientific information. Conversely, there is scope to base approaches on collaboration (Orr *et al.* 2007) and social learning (Steyaert and Ollivier 2007).

One of the key challenges of river basin planning is that rivers have often been modified so extensively over a period of decades or even centuries, that communities have effectively become “disconnected” from them. Re-imagining rivers may thus entail going beyond participation into a deeper process of social learning (Blackmore *et al.* 2007, Petts 2007), which can set episodic plan production within more continuous practices that engage with sustainable living (Collins *et al.* 2005, Pedler *et al.* 2006). This can potentially lead to new knowledge, acquisition of technical and social skills, development of trust and relationships, negotiation, and collective action (Muro and Jeffrey 2008, Walker *et al.* 2006). Social learning is a term with diverse applications, but in the context of this paper refers to the changes in knowledge, understanding, and behavior that arise through social processes of sharing experiences and perspectives, and of reflecting and learning collaboratively. For example, the Social Learning in Integrated Management (SLIM) project evaluated the development and deployment of knowledge for transformative actions at socially and ecologically meaningful scales within river basins using systems thinking and systemic co-researching (Collins *et al.* 2007, Ison and Watson 2007). Pahl-Wostl (2006) and Pahl-Wostl *et al.* (2007) reported



on the connections between social learning and collaborative governance in relation to changing paradigms for floodplain management in The Netherlands.

There is specific and relatively unexplored scope for using methods of imaginative engagement based on creative arts as a way of achieving social learning and understanding complex sustainability problems (Chartered Institution of Water and Environmental Management 2009, Kemp and Griffiths 1999). Whilst many imaginative engagement exercises employ visual practices (e.g., Morris and Cant 2004), some have utilized storytelling and creative writing (Simm and Samuels 2006, Seeley Brown *et al.* 2005). Stories are particularly pertinent in relation to “sense making” (putting forward tentative and plausible explanations to a problem especially in situations of uncertainty and ambiguity) and nurturing communities of practice through narration, collaboration, and social construction. In the context of the SLIM project, researchers showed how discourses around social learning enabled participants to interpret and cohere fragmented information (Blackmore 2007, Steyaert and Jiggins 2007). Gull *et al.* (2002) used creative writing as a tool in medical education, and found that, despite some problems of sustaining participants’ commitment, there was a tendency for self-reflective multidisciplinary learning and a level playing field between the different professions.

Thus, despite extensive experience of applying diverse participatory methods to river restoration, few exercises have enabled the public and professionals to spend time sharing stories, local wisdom, hopes, and fears in a personally engaged manner. Where this occasionally has happened, through arts-based projects, the results have rarely been critically documented. Our research thus innovated by enabling a group to work closely together in an equal, creative, and enjoyable manner over an extended period, in order to explore the engagement, discovery, social learning, commitment, and imagining that occurred.

## **APPROACH AND METHODS**

### **Creative writing as a tool of imaginative engagement**

As noted above, imaginative engagement can draw on a wide repertoire of methods from the visual to the literary. Mainly in view of the expertise available to us, and in the light of previous positive experience of its use (Sampson 2004), we chose an approach

based on creative writing. Key characteristics of imaginative engagement approaches are that they are highly personal but with the potential to be shared collectively; are exploratory; involve using personal experience to gain a deeper understanding of ourselves and what is around us; are able to help us attach meaning and see different perspectives; and are a means of emotional connection with past and present experiences and our environment. They also provide settings in which relevant scientific information can be sought and applied in reflexive ways.

We were particularly interested in answering three research questions:

- Can methods of imaginative engagement raise catchment consciousness?
- Are these methods likely to lead to identifiable changes in values, knowledge, and personal action?
- Are there indications that imaginative engagement can raise social and institutional capacity for contributing to the sustainable development of river basins?

These were ambitious questions which we were aware could not be fully answered within the time and budget constraints of one exercise, though we did aspire to achieve significant insights. Broadly, we were interested in finding out whether imaginative engagement would help move beyond participation, to social learning and change, as a way of sharing and raising awareness, knowledge, and skills, in relation to conceptually complex issues which need to be vividly imagined for breakthroughs to occur.

### **Case study area**

Our project was set within a postindustrial area of South Yorkshire, United Kingdom. The location was a 20-km stretch of the valley of the River Dearne, an area which had been at the heart of the United Kingdom's coal mining and steelmaking industries before these declined catastrophically during the 1980s (Ling *et al.* 2007). The former industrial land is now largely reclaimed and affords an unexceptional landscape of distributor roads, "big shed" commercial and retail parks, and volume housing, though it also includes some interesting provision for wildlife and recreation. In addition to economic and social hardship, communities have suffered periodic flooding, most

notably in the summer of 2007 when extensive damage and disruption occurred. Although the River Dearne is substantially less polluted than it was 30 years ago, it is still a highly modified and obscured feature, yet with substantial scope for further restoration and for contributing to the area's changing identity. Our project specifically related to a recent initiative called Dearne Valley Green Heart which addresses a program of regeneration and is led by the Environment Agency (the organization responsible, *inter alia*, for river basin planning and management).

### **Project team and recruitment of participants**

Our research team comprised a creative writing expert, two social researchers with experience in participatory processes and project evaluation, a landscape planner, and an environmental scientist. We commenced with a stakeholder workshop organized at an NGO nature reserve central to the Dearne Valley. This area of constructed wetlands on the site of former heavy industry has become a popular local venue and provided neutral territory for a communication and developmental event. In the absence of a sampling frame for local stakeholders we used a snowball approach (so-called because of the analogy of a snowball growing as it rolls downhill) whereby research access to the field of study is secured through the help and influence of participants and their contacts (Scott and Marshall 2005, Measham 2006). We approached 25 stakeholders and recruited 13 attendees drawn from local government, government agencies, NGOs, research groups, and the local community. The workshop ran as a series of plenaries and small group discussion to raise awareness, identify key local issues and information sources, and generate leads on recruiting and running a writing group.

Following this event, we recruited participants by advertising in local centers and libraries; contacting voluntary organizations and parish councils; and using community websites, word of mouth, and a local newspaper article. Enquirers were advised of the purpose of the exercise, and the requirement to commit to a series of early evening sessions. Having recruited a viable and reasonably diverse group (see Table 1) we conducted six 2-hour workshops, and also arranged additional masterclass tutorials, at the request of the participants, in the meeting room of a small local museum. The research concluded with an event that combined research dissemination with a celebration of the anthology produced by the writers. Reflecting the "center stage" role

of the participants, we held this in a relatively informal setting in a centrally located parish hall, and invited family and friends of the participants as well as professional stakeholders.

**Table 1.** Summary of project participants sample (N=7).

By gender		By age		By occupation		Knowledge	
Male:	3	18-30:	0	Part-time work:	1	Expert:	2
Female:	4	31-60:	4	Full-time work:	3	Lay:	5
		61-80:	3	Perman. retired:	3		

Although we invested considerable time and effort in recruitment, the number of participants recruited (11) and those who were able to participate in three or more workshops (7) were at the lower end of our target. A minority of the group had qualifications relevant to environmental science, so there was scope to blend “lay” and “expert” knowledge (see Table 1). This size of group is not untypical of in-depth qualitative research projects where the information gained from each participant is seen as a valid contribution to the state of knowledge (see Jönsson and Gustavsson 2002, and Cloutier-Fisher 2005, Hahn *et al.* 2006). We asked much of our group in terms of writing and feedback, and so participation had to be “interest driven”. Although we had three dropouts, these were probably no more than for a comparable evening class; it was, however, unfortunate that this included the loss of two professionals in their 20s (an age group consequently lost from the project sample) because of unexpected evening commitments at work arising shortly after joining the group.

### **Creative writing workshops**

The workshops were led by an expert in creative writing, who spent considerable time familiarizing herself with the area beforehand. Practical investigation of the Dearne Valley from source to confluence was augmented by library research and discussions with an amateur local historian. As well as having a research function, it was important (from a research ethics perspective) that participants would reap rewards from their

significant input of time and effort by developing their own skills and self-confidence. Whilst each workshop had a clear purpose and pattern, organization was flexible and responsive to participants' interests, experience of writing, and knowledge levels. Facilitation deliberately left room for movement in subject and treatment within the overall context of catchment consciousness.

The writing sessions thus developed and enabled individual creative interpretations of the Dearne catchment area—its characters, its society, its values, its physical/geographical disposition, where the area "comes from" and where it is "going", and the issues that face it. As creative writing requires context and inspiration, participants were asked to bring in visual images, objects, music/sounds, "found" items, pieces of writing they had read, or any other means through which they wished to engage with the Valley and with rivers more generally. Overall, the pedagogic method was one of guided and participative feedback, complemented by the production, where desired, of a reflective journal in which general observations of anything the participants felt relevant could be recorded during and between meetings.

### **Evaluating the writing workshops**

We monitored and evaluated the project through a process we termed embedded evaluation, to understand how participants engaged with the process and changed through and beyond the course of the workshops. Whereas evaluation of participation may occur as perhaps a single event around the end of a project, we embedded our monitoring and evaluation in the workshops so that the range of effects could be assessed and reflected upon throughout. This process utilized a range of conventional evaluation methods, namely (1) audio-recording of each workshop; (2) participant observation during workshops; (3) workshop evaluation forms completed after each workshop; (4) one-to-one semi-structured interviews half-way through the workshop series; (5) a river/project journal that each participant was given and encouraged to use; (6) questionnaires at the start and end of the sessions, and three months after. The questionnaires were designed to exceed the usual data collated for participation exercises (e.g., who participated, what was contributed) to gauge the lifestyle, behavior, and perceptions of participants and their general environmental and river-management-specific knowledge, and how these changed (or not) over time. The outputs from each

workshop session also provided evidence of changing perceptions and knowledge, as well as contributing to an edited anthology.

## **RESULTS**

### **The effects of imaginative engagement on participants**

Our various evaluation techniques indicated that using imaginative writing as a tool for active engagement and learning was a positive and valued experience for all. Each participant stated at least once that it was interesting and important to hear, and realize the existence of, the different views and associations that each person has concerning rivers and the environment more generally.

Responses indicate variable effects on participants' behaviors, but a more consistent effect on emotional, physical, and cognitive engagement with rivers, with all participants noting some change to their attitudes and/or thinking. In terms of awareness and knowledge, participants were asked to express their level of agreement/disagreement with nine statements. Five participants agreed moderately or highly with the statement "I discovered some general things" and particularly that they had "acquired a better understanding of the different functions of rivers and how people use and affect them". Most disagreed with the suggestion that understanding rivers was complicated and puzzling, indicating that the workshops had enabled information to be assimilated in comprehensible ways.

### **Signs of "catchment consciousness"**

Some exercises undertaken by the group were intended to reveal the participants' background awareness and to incorporate their findings about the area's history and geography. For example, one exercise, based on an imaginary encounter on the riverbank, illustrated a considerable level of prior awareness of the river and its features:

*As we walk along the embankment, we reach the confluence of the Dove with the more languid river Dearne at a point where the Dearne sharply bends to the right, as we view it arriving south from Darfield village. A passing angler says "How Do" as he wends his way home complete with landing net and fishing basket. Obviously fishing is allowed on this stretch of the river.*

Another exercise asked people to draw upon their imagination to reflect the time-depth of the catchment, as something which had been there through many generations:

*I climbed a small bund to reveal the marshlands and floodplains that lay before me. . . . In the distance I could see the chimney of an old mill of some type, surrounded by ancient trees, and the faintness of Hooper Stand at Wentworth, built as a lookout tower in the Jacobite Rebellion. Maybe Bonnie Prince Charlie had looked out from there and seen the floodplains and Darfield as a far different place to what it is now.*

A more recent historical reflection shows awareness about the planning process involved in regenerating the area:

*Walking to Broomhill with my father from Bolton-upon-Deerne along Ingsfield Lane, we have an uninterrupted view south from the high ground down to the wetlands through which the River Deerne meanders. The pits of Wath Main and Manvers Main loom beyond. . . . The years have passed by and it is now 2008. . . . The wetlands from Broomhill to Bolton-upon-Deerne once used by ice skaters in the winter are no more. Covered by spoil heaps from the pits after the war, the spoil has been landscaped in recent years. The old man in Broomhill is long since dead but the river is revived, pristine again and full of fish.*

On another occasion, participants walked along the riverbank and were asked to reflect their thoughts through four “keywords” and explain their selection. This indicated a wide palette of concepts, from very detailed to strategic, for instance:

*Catchment – as we came out onto the path and I walked up to the brow of the small hill, I was mindful of the massive catchment area of the Deerne and the Deerne valley here.*

*Tranquil – peaceful riverside aura, birdsong.*

*Scummy – edge of river scummy, reminds me where we are, what is near and what ends up in the river.*

*Slipping – As I walked back up toward the village, I had the feeling that the old village houses were rock solid perched on the top of the hill, and the new and newer and newer-than-that houses were metaphorically slipping in towards the water in the valley . . .*

Writers were regularly asked to write in poetic form, and this seemed particularly useful in enabling them to express the “living” river as a vibrant social-ecological system:

*Water rushing, dashing, downstream  
Meets another from the left  
This one babbles, smiles and gushes . . .  
Fishes gather in the eddies waiting  
For the angler’s lure . . .*

### **Emerging themes and insights gained**

The writers engaged with a wide range of materials, many of which they had sourced themselves. One exercise entailed familiarizing themselves with the official report (Pitt 2008) into the floods of June 2007, and then imagining they were people who had been affected locally. The following contribution drew upon official documents, as well as news coverage and accounts from friends:

*Today I read the Pitt Report. He seems compassionate to my needs and what’s required to be done. That’s all well and good, I’m sure he read my letter from the top to the bottom. Not. He wants to try living in this hell of a space for twelve months, well not quite, eleven months, twenty three days and seven hours, not that I’m counting. I haven’t had a bath in over twelve months and the shower only two foot by two foot, I stink. How bad is that? . . . My own picturesque home, next to the lovely river. Not now though. Behold, a dirty, damp despairing shell, that’s not even half habitable.*

One strong factor which emerged was the importance of the river as a recreational focus in former times:

*My favourite (tale) was the one about some young lads building a raft in the school summer holidays . . . they pushed themselves off from one bank and got grounded in the middle of the river . . . for hours as they were too scared to either wade across or shout for help!*

Another exercise involved a narrative about a journey within the catchment area (which the writers had to research), revealing significant awareness of the reaches of river beyond their local section:



*Here we left the Dearne. David said that he thought it rose somewhere to our left, and he wanted to show me some real hills, so we carried on, passing through a stone mill town, then up a much steeper rise towards a tall mast on top of a mountain. . . . Somewhere down there, in the hills below, the little Dearne started its journey. The journey took it across much of the scene below me, winding among the lumpy folds, through towns that I could not pick out in the faint haze. Though I could not see it, I imagined the distant North Sea . . .*

The diversity of writing exercises appears to have enabled vivid expression of multiple aspects of the regenerating river. Both “expert” and “lay” participants fully and equally entered into the writing exercises in ways that stimulated discovery and sharing.

## **DISCUSSION**

Our key concern was to explore whether imaginative engagement can help people move beyond participation to social learning and adaptive outcomes—in other words, to change their knowledge and practices in relation to rivers and wider environmental concerns.

Our embedded monitoring and evaluation indicate the promising potential of imaginative engagement in this regard. The explorations of people’s feelings and imaginations around rivers not only gave them insight into their own and other people’s feelings, knowledge, and personalities, but in several cases triggered a change in their own perceptions, thinking, and experiences. For example, one participant at mid-project noted that while she was overall still doing the same as before, she found that she now appreciates her surroundings more and also evaluates decisions more. One participant made similar observations, saying that he now pays more attention to his surroundings and that he is “more interested in rivers and the role they play in society” and has become “more interested in local environmental issues”; another participant reported becoming “more aware of opportunities for participation in my local area” and joining a local environmental group. Several participants also noted that they had started to write much more, so the project was also stimulating changes relating to the project’s medium of engagement.

Our research objectives related particularly to the role of imaginative engagement in

relation to raising catchment consciousness; stimulating changes in values, knowledge, and personal action; and raising capacity to contribute to the sustainable development of river basins. Catchment consciousness became evident during various exercises, such as those which involved understanding cause and effect in changes to the river's status and condition, and its journey from source to confluence. These exercises were supplemented by the leader's thought-provoking visual presentations with which she introduced and interspersed the workshops. It also seemed that participants with scientific and non-scientific backgrounds enriched their understanding of "catchment"—the former gaining a sense of the memories and journeys that were "caught up" in the river's compass, and the latter developing a stronger appreciation of the river's physical geography and ecology. Sometimes, intense information gathering occurred in fulfilling homework tasks, for example through local archives, internet searches, conversations with friends and relatives, and old maps and photographs. For many, a major source of knowledge and insight was other members of the group, both during and outside the workshop sessions. Significantly, the older members reported that, despite enjoying the course, they had learned little that was new; nevertheless they were a crucial source of information for the younger members.

Engaging imaginatively and creatively affected each participant in some way, be it in terms of their perceptions, understanding, and/or behavior. Importantly, spending more time thinking and writing about the Dearne and other rivers was a trigger for some to try out new actions: one participant reported that she had "walked the riverbanks for the first time"; another reported that he now does "[m]ore walking and encourag[es] family and friends to walk". For some the change was significant and longer-term and was stimulated early on, after the first or second workshop. For others, the change developed more gradually through different stages, affecting initially how the local river and area were perceived and valued, followed by an increased interest in finding out more, and finally initiating behavioral change, such as spending more time in river environments or becoming actively involved in environmental planning and a local NGO.

River basin planning not only requires effective public and stakeholder participation, it also affords invaluable opportunities for social learning. Whilst there are specific opportunities for community involvement in the production of statutory management plans, sustainable development will depend on the processes which follow plan adoption, and so public engagement needs to take a longer term perspective. River

restoration is an example of the “future natural” (Adams 2003)—whilst we cannot (and should not) attempt to reproduce nature exactly as it was at some arbitrary former time, we are nonetheless involved in exercises to make many stretches of river more naturalistic to promote recovery of ecosystem services. There is some evidence that our work helped create an ambience in which the capacity to do this could be stimulated by mutual communication between the scientists who possess codified knowledge and the local people who possess experience, ideas for change, and wisdom.

## **CONCLUSION**

Our foray into imaginative engagement has suggested that the approach

- was evaluated as a positive experience by all participants;
- enabled learning about people, rivers, their catchments, and local history;
- raised interest, so that people willingly continued their learning in between events;
- provided an opportunity for the older participants (60+) to contribute historical knowledge;
- triggered some changes to actions by participants in their 30s, 40s, and 50s;
- provided the incentive to search for information about the local river and to think about rivers at different scales; and
- increased the time spent thinking about the state, use, meaning, and management of rivers more generally.

Clearly, this initial exercise was limited in terms of its “reach”. However, there is now scope to communicate the written outputs to a wider audience in order to raise interest in and awareness of the future options for the Dearne Valley, and to build on our initial experience.

Imaginative engagement is worthy of further application and investigation within the context of river planning. It also has wider relevance to other environmental issues that involve large-scale and difficult-to-comprehend systemic processes, such as climate change (Buckeley 2000, Few *et al.* 2007). It would seem to be pertinent to social and institutional learning for sustainable development (Schusler *et al.* 2003, Tilbury and Wortman 2004) where co-investigation of live issues can be made the subject of shared

enquiry and creative involvement. Potentially, therefore, imaginative engagement approaches can complement other participatory methods, and may offer experiences which are enjoyable and rewarding. There is some evidence that capacity to engage in river restoration was increased by building knowledge about historical (and potentially recoverable) attributes, strengthening emotional ties to the river, demystifying river basin planning amongst non-professionals, and stimulating a deeper awareness of local meanings and appropriate modes of communication amongst scientists. Capacity was also built in terms of the art practice itself—the workshop leader noted marked development of writing skills and responded to requests for individual masterclasses, whilst one participant went on to contribute to a highly regarded local radio program.

The exercise was, inevitably, limited in its outreach and duration. Further work is needed to demonstrate the value of imaginative engagement at a wider scale and to monitor its long-term effect in raising capacity and stimulating change in behavior, understanding, and engagement in the participants and those they affect and reach. Our findings, though, are encouraging and suggest that wider application of the approach would be productive.

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### **Introduction**

Many of the world's most significant landscapes have been modified to some degree by human settlement and exploitation. Whilst the human modification of landscape is a universal phenomenon, it is most extensive in industrial and post-industrial societies. In these settings, traditionally managed landscapes may be especially highly valued, because of the relative (and perhaps absolute) lack of pristine 'natural' biomes. Moreover, distinctive and characteristic landscapes make a major contribution to national, regional and local identity. It is common for such areas to receive some form of official protection in the form of planning safeguards or conservation management.

In this paper, the term 'cultural landscape' is used to refer to distinctive and special countryside, despite the fact that most landscapes are 'cultural' in some degree by virtue of their human use or representation. The term is ambiguous, albeit widely used by policy-making organizations. On the one hand, it invites complex arguments about the interplay between human and non-human realms (c.f. Jones & Cloke, 2002), and the social construction and representation of geographic spaces (e.g. Matless, 1998; Brace, 2003). On the other hand, practitioners use the term in a more pragmatic sense to refer to extensive and possibly quite populous tracts of land where economic land uses have been conducted for centuries on a 'sustainable' basis, conveying (from a human perspective) distinctive, characteristic and special qualities. The World Heritage Convention (UNESCO, 1999), for example, identifies various types of cultural landscape, of which 'organically evolved' (i.e. deriving gradually from economic land uses, which are often still active) and 'associative' (i.e. identified with literature, historic events and other sources) categories are particularly pertinent in this context.

This paper takes the premise that cultural landscapes, whilst often deserving formal intervention by public bodies, cannot be sustained by external mandate alone. Thus, bureaucratic forms of protection, whilst necessary, are insufficient by themselves for

two main reasons. First, landscapes have been created by the effects of local people working within particular technological and environmental constraints. The intimate interaction between communities and land cannot be replicated or sustained solely by government intervention, but must rely on continued community input and preferably the maintenance of land management activities that have led to the production of distinctive ‘place’ qualities. Second, active state intervention is costly and can only be applied to a small sample of the totality of ‘cultural’ landscapes which, although varying in critical acclaim, are all valuable to some extent. Passive intervention (such as ‘designation’) can be more widely applied, but cannot enforce landscape management, and cannot be applied to each and every ‘cultural’ landscape for fear of excessive preservationism. Equally, however, those distinctive landscapes which have evolved through centuries of sustainable land management practices cannot be expected to continue to reproduce themselves indefinitely by the same ‘fortunate accidents’ that led to their creation. The external homogenizing forces of globalization mean that any attempts to (re)localize landscape use and identity will require a degree of conscious effort.

Consequently, measures to sustain landscape distinctiveness in societies where traditional agricultural practices are obsolescent, must increasingly involve active custodianship/ stewardship by local communities (Brown & Mitchell, 2000). In effect, they must draw upon reserves of ‘social capital’—the participatory infrastructure of people and their social networks—if land managers are to be motivated and volunteers enrolled in this cause (e.g. Selman, 2001). Given the multifunctionality of most noteworthy ‘first world’ landscapes, a diversity of participants, sometimes with conflicting production and consumption objectives, must be enjoined.

### **The Research Context**

The benefits of participatory management in land care are now well publicized—sharing responsibility, negotiating benefits, incorporating a wide corpus of lay and professional knowledge, enhancing capacity for implementation, increasing trust between stakeholders, reducing the deadweight of enforcement, improving understanding and awareness, facilitating policy integration and increasing public commitment. However, there are significant drawbacks, notably, the early and substantial investments of time and other resources, the need to develop unfamiliar

skills, potential opposition or even conflict promotion (to pursue sectional political agendas), compromising strict conservation goals, and difficulties in maintaining initial consensus and energy. Moreover, it is widely acknowledged that community-driven initiatives are generally highly reliant on a small core of social entrepreneurs, who may depart or disengage, and this lack of continuity may undermine the long-term needs of landscape maintenance. In all likelihood, therefore, at least some 'top-down' input will be necessary, and so this paper considers community participation within a wider framework of stakeholder involvement, including that of governmental and non-local organizations.

Participation by stakeholders and the general public is now widely promulgated as an essential ingredient of landscape planning and management. For example, the European Landscape Convention has, as one of four general measures, the requirement for signatories to promote stakeholder participation, and thus ensure procedures for the participation of the general public, local and regional authorities and other parties with an interest in the definition and implementation of landscape policies (Council of Europe, 2000). Similarly, the International Union for the Conservation of Nature and Natural Resources' 'Category V' Protected Areas, Protected Landscape/Seascape, which are the most pertinent to the current discussion, are based on the tenet of maintaining a relationship of 'people and nature together' (Phillips, 2002, p. 1). Pimbert & Pretty (1997) note that 'community based conservation' and 'peoples' participation' have become part of a conventional rhetoric which is increasingly being embraced by international and national conservation organizations. Given the inadequacy of top-down prescription and nominal participatory measures, they argue for a long-term process of dialogue, negotiation, bargaining and conflict resolution, with a strong emphasis on capacity-building amongst local institutions and individuals, combined with new professional concepts, values and practices.

The official countryside bodies in Britain have recently championed the use of methods of landscape characterization to map rural distinctiveness (Countryside Agency/ Scottish Natural Heritage, 2002; Countryside Council for Wales, 2002), and have also sought to reflect more fully the socio-economic dimension in the management of protected areas. This paper reflects on research undertaken for the Countryside Agency on models of community participation in landscape management. There is a strong

emphasis on ‘developed’ countries, as the key purpose of the research was to identify models that had some potential for transfer to the English countryside. The main research methods were: a desk study of literature and documentation relating to landscape management; a study of English-, German-, Dutch- and French-language websites; and a number of contributions from overseas researchers, whose inputs are noted here as ‘personal communications’.

Given the diversity of legal, governmental, social, economic and tenurial contexts in which landscape management occurs, it was important for the research project to set limits on the range of examples for inclusion. Thus, ‘landscape’ was taken to refer to scales from the neighbourhood to sub-region, and from single facilities (e.g. waymarked trails) to multi-attribute areas. Particular attention was paid to landscapes managed in such a way that their secure and sustainable conservation had a social and economic relevance to those who lived in or made their living from them. ‘Participation’ was defined as the full engagement of communities in a management process, usually devolving a leadership role and giving a substantial degree of ownership over the results. The study thus excluded examples of partial involvement of communities in, or consultation on, an externally imposed or controlled management process. In general, participatory methodologies *per se* were excluded, though a small number of examples seemed relevant where they had led to substantive outcomes. Whilst the use of voluntary community labour simply to implement schemes and projects designed by external organizations or authorities was not considered relevant, volunteer labour was important to the implementation and design of some community-inspired schemes. The term ‘community’ is also multi-faceted, but was taken to refer to general populations and groups representing villages and towns (communities-of-place), and specific communities-of-interest, particularly farmers and other groups having direct control over land/water.

### **Models of Participation in Landscape Management**

The need to draw on reserves of social capital in landscape management has been increasingly acknowledged. A useful summary of the general issues is provided by Borrini-Feyerabend (1999) in her account of the collaborative management of protected areas. She notes that, whilst normal practice has been to assign the management of landscape and wildlife resources to a specific agency, nevertheless the management of

landscapes affects people and organizations who use or derive an income from them, or who possess knowledge, capacities and aspirations that are relevant for their management or recreational value. Stakeholders typically:

are *aware of their interests* in managing the area, even though they may not be aware of all its management issues and problems;

possess *specific capabilities* (knowledge, skills) *and/or comparative advantage* (proximity, custom, mandate) for such management; and

are *usually willing to invest* specific resources (time, money, political authority) in such management.

A spectrum of degrees of community participation exists, depending on local conditions and conservation priorities (Figure 1). In the situations addressed by Borrini-Feyerabend, stakeholders generally enter into a formal partnership with a management authority, but similar observations are transferable to situations where no authority has been established and management is driven predominantly by local enthusiasm.

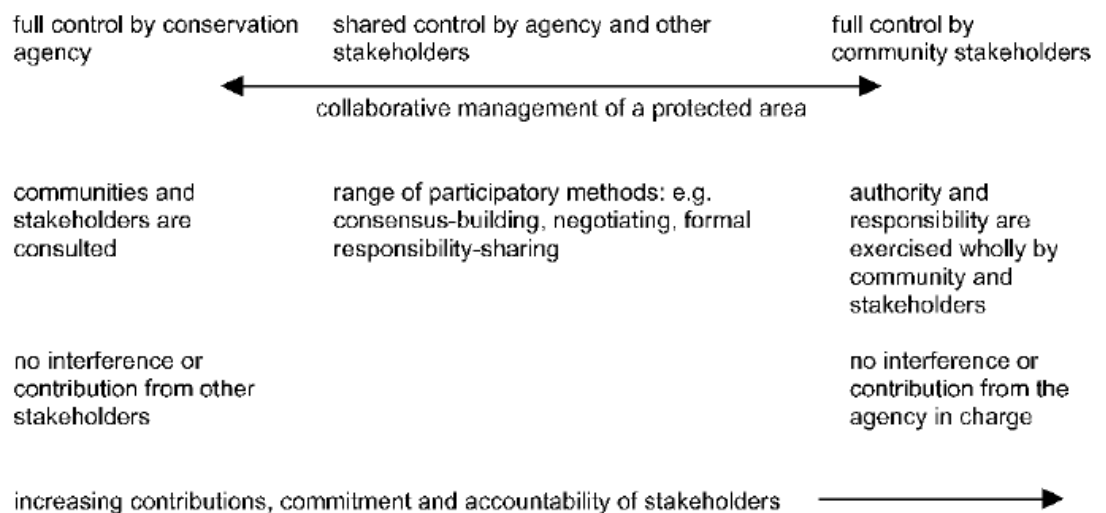


Figure 1. Participation in protected area management—a continuum (adapted from Borrini-Feyerabend, 1999).

Thus, the form in which participatory landscape management occurs is potentially very variable and, as with other areas of planning, the most appropriate option for a particular area will lie on a continuum somewhere between wholly top-down or completely delegated action. A range of generic possibilities in respect of biodiversity and

landscape conservation has been identified by Pimbert & Pretty (1997) (see also Pretty, 1994), and their alternatives may broadly be interpreted as:

*Minimal participation:* comprising situations where participation (a) is 'passive' and local people are simply informed unilaterally; (b) is based on 'information giving' and stakeholders participate only by answering questions posed by extractive researchers and project managers using questionnaire surveys, but cannot influence proceedings; and (c) involves 'consultation' where external agents listen to views, but still define both problems and solutions, and have no obligation to modify these in the light of people's responses.

*Participation for material incentives:* where people participate by providing resources such as labour, or 'consumption goods' such as access, in return for food, cash or other material incentives. In developing countries, bioprospecting often falls in this category, as rural people provide the fields but are not involved in the experimentation or the process of learning; in 'first world' settings, it is increasingly common for grant-aid or subsidy to be linked to conservation, either directly or through cross-compliance.

*Interactive participation:* where people participate in joint analysis, leading to action plans, enhancement of social and institutional capacity, and increased local control. It is also often associated with the use of interdisciplinary methodologies and structured learning processes. (A more limited variant is 'functional participation' where local participation is reactive and instrumental in responding to externally initiated programmes.)

*Self-mobilization:* where people participate by taking initiatives independent of external institutions.

According to Pimbert & Pretty (1997), selection of the most appropriate approach will be influenced by local priorities, and a definition of *what* is to be conserved, and *how* and *for whom* it should be managed. Whilst local people need to be enabled to



undertake their own analysis and determine their own priorities, definition of the appropriate roles of state agencies and other external institutions is equally important. The key challenge is generally that of finding ways of allocating limited government resources in order to stimulate widespread replication of community initiatives.

There is a general acknowledgement that effective local participation can only occur where a wider climate of transparency and inclusion, and a spirit of trust and open governance, prevail. What might be termed 'bureaucratic democratization' can thus help ensure that public bodies create conducive conditions for social entrepreneurship. Thus, much of the literature refers to the democratization of governmental institutions as an important pre-requisite for wider participation. For instance, Agger (2000) shows how the work of the Wadden Sea Co-operation has helped couple conventional scientific expertise and policy advice to value judgements and lay knowledge. This arrangement was instigated following a decision in 1991 to phase out hunting migratory birds which, though considered to be democratic at the time, provoked widespread protest and with hindsight occurred too late in the decision-making process, under-utilized local knowledge, misled local communities about the extent of their involvement, and failed to recognize the very different ideologies of interest groups. The organization now represents a formal sharing of responsibility amongst the Netherlands, Germany and Denmark concerning the protection of the nature and wildlife in the International Wadden Sea, and is supported by a common secretariat in Wilhelmshaven (Germany) which includes national interest groups and local users. White (2001), in a study of the Wisconsin Department of Natural Resources, made similar observations about the need for organizational change, and identified the importance of trust, civic capacities, history of working relationships, and level of commitment as integral to participatory planning and decision making.

### **Experience from 'Developing' Countries**

Although the emphasis of this paper is on 'first world' settings, it would be a mistake to ignore the extensive literature on participatory landscape planning in developing countries, as this has to a large extent been the inspiration for community-based protected area management. This body of work largely defined the possibilities for 'collaborative management' and the term Community-Based Natural Resource

Management (CBNRM) is now widely used (c.f. Dudley *et al.*, 1999; Borrini-Feyerabend, 1999, 2000). Key elements of the new paradigm have been summarized as:

a change in emphasis from government to civil society, accompanied by a shift from centralized to decentralized planning and management;

an increase in the range of values that protected areas are expected to fulfil, to include social and cultural needs;

greater emphasis on bottom-up approaches, including communities creating their own protected areas, often within a wider framework for protection and sustainable use; and

a changing role for protected area managers, with the emphasis moving from direction to facilitation (Dudley *et al.*, 1999).

Where appropriate, programmes will also seek to balance rights with responsibilities so that, for example, the right of indigenous communities to pursue sustainable traditional or customary use of natural resources sits alongside a responsibility to protect threatened species and ecosystems (c.f. the Theme on Indigenous and Local Communities, Equity and Protected Areas [TILCEPA] of IUCN).

Two examples from practice illustrate the emergent paradigm. First, in a case where 'production' functions are foremost, the participatory management of wetlands adjacent to Lake Victoria at Jinja in Uganda has taken place within the framework of the city's Local Agenda 21 (Wacker, 2001). Here, the lake is *de jure* state owned but *de facto* an 'open access' wetland zone, degraded by industry and waste disposal, yet providing opportunities for plant gathering and gardening for many urban poor. The process is described as one of participatory research, community empowerment and legal development, and is essentially based on a women's group formed by 500 wetland users, which sustains a local common property regime over three urban wetlands. Second, consumption resources are becoming increasingly important in developing countries, particularly in relation to ecotourism. Particularly well known, is Zimbabwe's *Communal Area Management Program for Indigenous Resources (CAMPFIRE)*, which enables local people to benefit from game revenues. Whilst there appear to be problems of lack of direct local control over hunting revenues, and (in practice rather than

intentionally) generally decreased community control and increased state control, there are benefits in terms of social capital and community strength, implementation of local people's own plans, and resisting attempts by non-local actors to control resources (Leach *et al.*, 1999).

Overall, CBNRM has been found to combine government decentralization, devolution of responsibility for 'common' natural resources to local communities (e.g. Ostrom, 1998), and community participation (often referred to as co-management). However, it does not receive unqualified praise, and researchers have alluded to numerous implementation problems including beneficiaries being treated as passive recipients, short-term projects, and lack of clear criteria to judge sustainability or success, whilst many approaches are based on flawed assessments of communities and environments (Leach *et al.*, 1999). Even enlightened modern approaches are at risk of supporting processes of landscape change that only benefit a powerful minority, and of reinforcing myths about the existence of stable communities, the readiness with which consensus can be achieved, and pre-colonial levels of harmony and equilibrium.

### **Experience from 'Developed' Countries**

Many of the principles and issues encountered in 'developing' countries, whilst taking place in a vastly different socio-economic context, sound surprisingly familiar to those in industrial or post-industrial societies. However, in general, it is likely that the latter will be characterized by: well-established arrangements for protected areas and robust governmental institutions; generally intensive cultivation of farm and forest; and an emphasis on the management of landscapes for 'amenity' benefits rather than traditional (i.e. agriculturally-focused) rural development. Multifunctionality, rather than single economic use, is also a hallmark of many cultural landscapes, albeit the balance between production and consumption functions in relation to a country's stage of economic development will vary greatly. Therefore, caution must be exercised in drawing too heavily on 'developing nation' experience, so the remainder of the paper reflects on various 'first world' examples.

A further note of caution is sounded at this point, to the effect that genuine participation involves authorities relinquishing a degree of power, and placing trust in lay communities. Given that 'first world' cultural landscape management will entail

promoting 'consumption' goods such as amenity and 'natural beauty', there is an implicit assumption that the laity will share a 'polite' view of landscape, and will thus endorse a strategy sympathetic to conventional aesthetics. This cannot be taken for granted. For example, Tinker's Bubble (Somerset, UK) is a site of communal permaculture farming which has created a 'heretic' landscape associated, in planners' and neighbours' eyes, with 'shackery', yet it is unquestionably a cultural landscape derived spontaneously from a valid mode of land management. This may be a rather extreme illustration, but it serves to remind us that devolving a certain amount of bureaucratic control may involve accepting that communities do not always subscribe to official policy discourses or normative cultural constructions.

The ensuing account focuses on innovative examples of participatory landscape management in relation to five key aspects: stakeholder engagement; communities-of-interest; communities-of-place; the management of specific landscape features; and policy and funding frameworks. This is not always a perfect separation as, for example, groups pursuing a particular interest (e.g. vine growers) are often likely to concentrate in a particular place. Indeed, official labelling systems and marques now often link product to place specifically to capitalize on the association between special landscapes and food or crafts. Thus, the allocation to categories in some cases may be a little artificial.

### **Stakeholder Engagement**

Key to successful participation is knowledge of local stakeholders, and many landscape management exercises now start with a formal stakeholder analysis to establish the institutional setting, local champions, social networks and power relations. Stakeholder engagement is increasingly facilitated through a range of discursive and inclusionary processes and, whilst participatory methods *per se* are not a focus of this study, it is useful to draw attention to illustrations of their use in addressing landscape change. An example from the UK was the application of a citizens' jury in the Fens to consider major wetland creation (Aldred, 1998; [www.floodplains.org](http://www.floodplains.org), 2003). The exercise was 'free-standing' as its conclusions would not have further consequences, but there was an associated Advisory Group which agreed to give serious consideration to its recommendations. The jurors supported the proposal to create a large natural reserve in the wetlands, as well as farmer-led schemes to support conservation and promote locally

‘branded’ foods. Visualization of such ‘futurescapes’ (RSPB, 2001) as a means of actively engaging stakeholders is also gaining currency (Dolman *et al.*, 2001; Tress & Tress, 2003).

A more ambitious approach to stakeholder involvement is the Dutch practice of creating ‘regional dialogues’. For example, in North-Limburg, an intensively urbanized and industrialized area experiencing a range of land-use pressures, the idea for such a dialogue came from a director of a local bank and an active local foundation, who sought to promote economic development in a sustainable manner, sensitive to local aspirations and quality of life (de Jonge & van Mansfeld, pers. comm., 2002). A university research institute was invited to lead the search for a solution and engaged stakeholders from private and public organizations, NGOs, government bodies, banks and scientific organizations to this effect. The organization was based on three ‘layers’ comprising the initiating committee, the core group and working units, with the collective purpose of pursuing innovation, support and implementation. The groups’ work underwent four phases: ‘initiative’ phase for the generation of ideas through roadshows, such as a proposed ‘space pump’ to drive peri-urban landscape quality through the agro-industry; three-day ‘ateliers’ for innovations and new concepts; ‘clustering’ of ideas and projects for presentation to a regional platform; and a ‘market place’ providing a forum where ideas were displayed and ‘takers’ found. Early wins included projects such as ‘nature crossing borders’ (landscape links across national boundaries), Gelre Feeds (an ‘industrial ecological’ plant-animal food production business aimed at de-intensifying rural land use), ‘green-grey crossroads’ where ecological corridors cross major transport routes, and ‘Terra libra’ (‘commons’ style spaces within settlements to encourage rural entrepreneurship) (de Jonge & van Mansfeld, pers. comm., 2002).

Stakeholders have many different motives, but an important distinction was made previously between ‘functional’ and ‘interactive’ participants. Thus, some may be motivated particularly by ‘grantsmanship’, and seek out available sources of funding, whilst others may aim to play a more active role in shaping decisions. Thus, in a study of ecostewardship partnerships within the Adirondack Park, Michaels *et al.* (1999) distinguish between *capacity-driven* participants, who use partnerships to compensate for budget shortfalls (i.e. they compete for external funding), and *commitment-driven*

participants, who use partnerships for activities feasible only through collaboration (to achieve something external to current operations). In the latter case, partnerships are used to initiate action in a situation where no single body has sufficient jurisdiction or capacity on its own. Participants identified attributes for partnership success as a catalytic individual or organization, a shared vision, a common concern among participants, clear and defined goals, adequate funding and a climate of inclusivity and communication. Examples of ecostewardship partnerships within the Park include the Adirondack Mountain Club, working to raise funds and repair trails so as to maintain recreation value within acceptable levels of environmental impact, and the Northwest Flow Project, where the Adirondack Nature Conservancy works with large private landowners to protect ecologically valued lands.

### **Participation by Interest Groups (Communities of Interest)**

Most examples of ‘interest group’ participation appear to be associated with farming communities. This has generally taken place in the context of agri-environment schemes, which are typically prescribed on a top-down basis, with grass-roots participation guided by centrally-determined menus. This is not always the situation, however, and Deverre (2001) describes a more bottom-up structuring of an agri-environment solution within a Common Agricultural Policy (CAP) framework. He refers to a formerly conflictual situation in the Crau (southern France), which is of particular interest for two reasons: the solution rested on a co-operation between conservationists and farmers to reintroduce traditional land management practices (rather than a conventional approach excluding economic activity); and it reflected the significance of the ‘ordinary’ countryside rather than a recognized outstanding landscape. The initiative grew out of opposition from ornithologists and plant ecologists to agricultural intensification during the 1980s, and these groups persuaded the conservation authorities to draft an order for a Special Protection Area, but this failed due to strong economic and political objections. Subsequently, a middle way was proposed, based on traditional land management, temporal zoning of activities and a new scheme (*Foin de Crau*) to subsidize autumn hay production. The scheme was developed essentially on the farmers' own initiative and was supported by naturalists.

One of the most widely promulgated examples of farmer participation in landscape management has been the Landcare movement in Australia. Although concerned

initially with natural resource issues (e.g. soil and water) amongst the agricultural community, it has subsequently broadened out to include other landscape concerns and a wider cross-section of rural society. Landcare began in 1986 with a pioneer group in central Victoria (State of Victoria, undated), and further groups followed, generally in response to a common problem (e.g. salinity, erosion gullies) which spanned a number of properties and thus required cross-farm collaboration. The movement now comprises three elements, the National Landcare Program (NLP), community Landcare (the most visible manifestation), and the Landcare movement, and, through the National Heritage Trust, it supports 4000 community groups involving around 120 000 volunteer members (Cary & Webb, 2000). The publicity surrounding Landcare suggests that its 'learning group' approach produces benefits of collaboration, improved understanding, access to additional resources, community pride, and successful examples for others to follow. However, whilst it does appear to have contributed to changing social norms about land conservation in rural areas, there is little evidence of a shift towards more sustainable farming practices generally, or of overcoming deep-set problems associated with property rights, sparse population and viable solutions. Yet there do seem to be many positive outcomes, and much of its success is attributed to collaboration between lay and professional communities supported by central funding.

A further type of instrument, based essentially on the participation of an agricultural trade union, is the Dutch *In Natura* initiative (*In Natura*, undated). This is an umbrella organization of 30 local programmes for agricultural management of landscape/nature in the western part of the Netherlands. Farmers and other residents collaborate to preserve nature and landscape values, conserve cultural history and revive socio-economic activity (e.g. extensive recreational activities, regional food products and water management). There is also wider co-operation with government and other organizations at the (inter)national, provincial and regional scales. Given the complexity of ownerships and decision making, farmers and members of the public are encouraged to organize themselves into associations for the protection and improvement of their local landscape. *In Natura* thus offers an opportunity, through discussion, knowledge networks, research and development, to create linkages between farmers, local and regional government and conservation organizations.

A rather different approach has occurred in Denmark, where there is a long tradition of agricultural co-operatives. In certain areas, farmers have become collectively involved in the production of landscape management plans. One pertinent example is the production of zonal forestry plans, which can help agricultural communities to bid more effectively for agri-environment funds. Whilst co-operation is voluntary and usually incomplete, there is a strong element of social sanction and aesthetic pleasure, as well as more material motives. Thus, Primdahl *et al.* (2002) have described conditions in Nees (Western Jutland, Denmark), where a university research team proposed two alternative landscape plans for the area. Farmers in Nees agreed on one of the alternatives and asked the county council (which is responsible for landscape planning) to designate a large proportion of the area as an 'afforestation zone' in order to give property owners access to grant-aid. In addition, some farmers contacted the state forestry agency, offering to sell part of their farms for use in public afforestation projects. Subsequent research in the area revealed not only the extent of new woodland, but also numerous complementary environmental schemes that farmers appeared to have undertaken.

In Hungary, where recent economic and political reforms have led to a renewed interest in maintaining and marketing heritage, there are some relatively unusual examples of interest group collaboration to regenerate traditional landscapes (Kayner & Ungvári, pers. comm., 2002). An illustration of this is the *hegyközség* (vine-growing community), where owners combine to regulate many aspects of viticulture, including planting, methods of growing, creating wine-tasting stations, and designing the overall appearance of their lands and neighbourhood. National characteristics—the nature of legal frameworks for local associations, the extent of land-ownership by local councils, and the presence of many small-scale farms—make these types of practice more viable. A further example, the Ormánság Foundation, is an NGO established by young professionals committed to sustainable development, and which has promoted a number of projects with varying degrees of success. The most successful are rooted in local culture and entail community participation in design, examples of which are the revival of 'fruit forests', municipal nature protection plans and agro-tourism. The Foundation's activity is mostly financed by government grants, with the balance being secured through the enterprises set up by the Foundation and in-kind contributions.



### **Participation by Localities (Communities-of-place)**

Many of the larger landscape designations, such as Areas of Outstanding Natural Beauty (AONB) in England and Wales or Parcs Naturel Régionaux in France, now have substantial mechanisms for stakeholder involvement. Whilst not denying the range of imaginative local schemes which occur under their auspices, however, they fall outside the ambit of the present discussion, by virtue of their centralized origins and planning processes. Most community-centred landscape management examples are, not surprisingly, to be found at a much smaller spatial scale.

A striking illustration is that of Community Woodlands, some particularly ambitious examples of which have occurred in Scotland (Community Woods Online, undated), within the context of a UK-wide scheme to enhance grant-aid for woodlands incorporating community benefits. Thus, numerous local groups have organized themselves to establish or regenerate woodlands, or to modify the management of commercial forests to achieve community objectives. In part, this is inspired by wider initiatives for large-scale re-forestation, including those areas historically associated with the highland wildwoods (e.g. Re-Foresting Scotland, Trees for Life). Published case studies of Scottish community woodlands typically reflect a concern for: integration of forestry with small-scale farming, local livelihoods and enterprise, the temporal/ inter-generational dimension (past, present and future), local ideas/ views/ preferences, local communities, and tourism. One of the best documented examples is that of Borgie Forest, in the remote far-north of Scotland, where a village, already with a track record of initiating local community development, assumed managerial responsibility for a state-owned conifer plantation. Direct community benefits from commercial plantations are normally limited as labour is often undertaken by mobile gangs and revenues leak out of the local economy. Following consultation, the North Sutherland Community Forestry Trust was established in May 2000, and further participatory exercises were conducted in order to develop plans to increase local economic benefits, encourage community involvement, extend recreational and educational opportunities, and explore possibilities for a greater level of community ownership. A more modest (and typical) example is that of Wooplaw woods in the Scottish Borders, which have been brought into the ownership and management of a community-based society. At present, the site comprises a mixture of native hardwood

trees and commercial Sitka spruce, but the long-term aim is to harvest the Sitka and replant with native trees.

Corbett (1998) describes a rather different process in Oxfordshire aimed at the partial re-establishment of Wychwood, a former royal hunting forest which is now reduced to a few blocks of ancient woodland. The project began in 1997 and originated from two residents, whose idea was taken up by Oxfordshire's Nature Conservation Forum. The concept of restoring a medieval hunting forest understandably creates tensions with modern patterns of land use and management, so the forest boundaries and detailed project aims have been difficult to determine, and the project has initially confined itself to providing a general vision with limited short-term targets. The project is organized by a partnership of local authorities and environmental NGOs, and it promotes a variety of community engagement activities, where 'community' has been defined in terms of farmers, landowners and 'parish' residents. Particular importance has been attached to developing an understanding of the relationship between history and ecology amongst local people, in order to help them inform future decisions. Implementation mechanisms are likely to include parish conservation plans, whole farm conservation plans and joint parish projects.

A further activity of the Oxfordshire Nature Conservation Forum is the Four Parishes Project (Selman & Wragg, 1999). This joint conservation initiative by local farmers, the Farming and Wildlife Advisory Group and the communities of four adjacent parishes, has centred on co-ordinating and training teams of surveyors to undertake non-expert wildlife/habitat audits, and encouraging farmers to adopt conservation practices. A pilot Conservation Plan was initially produced for one parish and local farmers drew up a hedge management leaflet to coincide with its launch. The initiative was championed mainly by four key individuals: the County Ecologist, a local volunteer from an environmental NGO, an influential local landowner, and a volunteer from a local environmental group.

Parish-level work in England is mirrored by 'commune' level initiatives in France, Belgium and Luxembourg. The distinctive character of Local Agenda 21 initiatives in these countries with 'napoleonic' local government structures has also been noted elsewhere (Lafferty & Coenen, 2001). Klopp (2001) refers to the inter-commune syndicate for nature conservation in Luxembourg where, in 1989, the deputy mayor of

Bertrange created the SICONA-Ouest grouping. This initially had a subscription of 10 communes, followed later by another four, and it now covers about 10% of Luxembourg. The aims are to maintain, enhance and create rural habitats, and to implement 'green plans' (introduced in Luxembourg in the 1980s), with funding coming mainly from the communes plus a top-up from central government. Starting at the beginning of 1990, two specialist land managers began working with SICONA with relatively modest equipment (such as tractors, hedge trimmers), supported at peak periods by commune workers and some farm workers; core staffing and field machinery have grown significantly over the past decade. Three important points can be noted about this initiative: it is claimed that there have been spin-offs in terms of farmers' own conservation sympathy, conservation activity has been extended to a wide variety of sites rather than just formally protected ones, and projects have become progressively more complex. Negative aspects are lack of influence on forestry or on urban greenspace, as well as the continuation of national policies which are unsympathetic to 'traditional' agriculture.

A notable initiative in Belgium has been the Plans Communaux de Développement de la Nature (PCDN). Alphonse (2001) notes that legal effect of these is to turn natural heritage from *res nullius* (belonging to no-one) to *res communis* (belonging 'in common'). In these, partnerships (of public bodies, naturalists, farmers, anglers, industrialists, individuals, etc.) aim to engage citizens, farmers and others in various actions such as hedge planting. The process is led by the communes, who, as well as facilitating action by others, are able to act directly through sympathetic management of road verges, care in issuing planning permits, and so forth. The PCDN assists the commune's goal of creating closer harmony between nature, industry and agriculture; it also draws local people into environmental management, and provides a setting in which public preferences can seriously be considered.

In some areas, landscape features may be included in statutory local land-use plans, providing opportunities for communities to be involved through public consultations. Reference to landscape features in adopted plans may also strengthen their safeguard in practice, both by deflecting development, and by attracting attention and incentives. This is illustrated by the approach in Swiss communes, which have powers to regulate land development, a duty to indicate and protect locally important nature conservation

sites and a permissive power to safeguard sites of local landscape importance (though protected areas of cantonal or national importance are managed by higher authority). Despite these apparently strong arrangements, regulations only apply to non-agricultural development, and development proposals tend to be ‘mitigated’ through detailed design rather than refused. Incentives for the protection of locally important landscapes are few, though far more exist for nature conservation sites. However, there are undoubted benefits in identifying specific sites and including them in a published plan, with specific policies and incentives aimed at safeguard, management and compensation.

In some instances, villages may capitalize on local landscape assets in order to promote tourism. Some particularly interesting cases are to be found in Germany, typically associated with peculiar types of public sector employee (such as the post of local forester) and organizational status (notably the *eingetranger Verein*, ‘registered society’). One local project, *Natur und Kultur* derives from a pact made in 1992 by 86 farmers around the village of Hindelang (a tourist destination in the Bavarian Alps), where agricultural intensification was posing a threat to the traditional landscape. Hence, farmers agreed to cultivate their land in an extensive way and to work without the use of commercial fertilisers. For example, dairy farmers are now subject to strict controls through participation in the ‘Open Stable’ project, which guarantees that animals are husbanded in the most natural conditions (*artgerechte Tierhaltung*). The village council agreed a yearly financial support of around 70 000 to the farmers, and this was seen as a mutually reinforcing situation, with tourists continuing to be attracted to the landscape and farmers able to market their produce directly to tourists. A farmers’ market has since been established, with a particular concern to convey to visitors the connections between extensified farming and ‘green’ tourism, whilst the image of the village has been further enhanced by the development of renewable energy related to local rivers and forests.

Also in Germany, the Rhön UNESCO Biosphere Reserve is viewed as a ‘positive’ designation. In contrast to the widespread perception of conservation designations as reactive and restrictive instruments, this is viewed as an opportunity to promote landscape quality, adventure sports and other activities (Lebensraum Rhön, undated). Reserve management encourages projects which: stand a good chance of being translated into action; have a person/body acting as lead agent, prepared to carry the

project forward and assist financial development; conform to the ‘model-picture’ criteria conserving the area as the *land of the open distances*; and link to measures within the Local Action Plan. Projects include the Rhön Apple Initiative (based on a *Verein* for food producers, winepressers, fruit-juice producers, businesses, gastronomists and nature conservationists), and the Rhön Beef Labelling System, taking advantage of a recent legal provision for ‘optional’ labelling of products from the locality where the animals are kept.

### **Participation in Specific Landscape Features**

Whilst it is often difficult for communities to become involved in very ambitious landscape-scale plans, ‘landscape features’ can be quite specific, making it more practicable for groups to take responsibility for custodianship/stewardship. Two categories of specific asset are illustrated here: a localized place and a linear facility. With regard to the former, in the German village of Hümmel, the community, via the village forester, has assumed management for a forest under its ownership. The main aim is to revert a ‘wet woodland’, just over 7 km<sup>2</sup> in extent, to primeval conditions (Village of Hümmel, undated). Timber harvested from the forest is certificated by the FSC (under its ‘biological certificate’ category), and there have been extensive management changes. Revenues are further increased by marketing forest-based recreation, such as ‘survival’ weekends. A further illustration is the People's Park (Terryland, Galway, Ireland), a Forest Park being developed through local initiative, involving communities in planning and planting. Festivals have been held and a wide cross-section of the public engaged. Key to its success has been a partnership between progressive local government officials, enthusiastic community organizers, supportive national politicians, skilled artists and visionary ecologists. Funding has come through a series of local and central government grants, with administrative support given by Galway City Council (McDonagh, pers. comm., 2002). Also in Ireland, the state forestry agency, Coillte Teoranta, has helped to promote arts and recreation based community projects in public forests. These include community partnerships in landscape management, partly to reduce levels of vandalism associated with a lack of sense of local ownership (McDonagh, pers. comm., 2002).

An important example of ‘linear landscape’ creation is the Te Araroa (The Long Pathway), New Zealand. Here, a trust mechanism has been set up to create a continuous

legal foot trail linking the northern and southern tips of New Zealand. Responsibility for creation of individual stretches falls to local councils. Funding is provided through the Lottery Grants Board, and various partners contribute to community ‘capacity-building’ efforts. It is intended that communities, as well as helping develop the trail, will also identify its potential for sustainable economic and employment opportunities (Booth, pers. comm., 2002). The most extensive experience of ‘greenway’ development has, however, been in the USA (Little, 1990; Lindsey *et al.*, 2001). One of many such cases is the regeneration of the Erie Canal corridor (part of the Heritage Corridor Program), which received core federal funding of \$10 million over a 10-year period, mainly to provide a basis for leveraging additional resources (Kay, pers. comm., 2002). Levered funds have tended often to require an emphasis on ‘socio-economic’ aspects, such as tourism and recreation-related job creation. The corridor plan required the creation of a unified trail system, but was still able to accommodate local land use diversity and public preferences through careful use of guidelines, enforcement policies, and maintenance strategies. The Plan also called for the support of public/private formal and informal partnerships to help formulate regional use, the recruitment of adjacent landowners to monitor activity, and the co-ordination and recruitment of local volunteers through an Adopt-a-Trail (‘friends’ of the trail) programme. The trail management structure comprises an overall board of directors who meet on state-wide issues and broad policy and programme development, regional canalway groups with oversight of more detailed maintenance and planning, and local adopt-a-trail groups, with a hands-on approach to maintaining features and organising activities. In addition, locally inspired groups have been formed by concerned citizens to identify sponsors and organize volunteers to undertake practical tasks. One such group, the Glen Falls Feeder Canal Alliance, has also succeeded in commissioning a professionally produced master plan and obtaining numerous grants (Kay, pers. comm., 2002).

### **Policy and Funding for Community Participation**

Given that community participation is more likely to prevail within a general national culture of collaboration and participatory action, higher level policy developments and sources of funding may set the climate in which local landscape management occurs. A pre-eminent example of this is the policy framework produced by the Dutch government Ministry of Agriculture, Nature Management and Fisheries (2000). The nature

conservation element of this framework is based partly on traditional reserves, but also on integration of urban and rural nature conservation, creation of ecological links across the wider landscape, and promotion of nature in ways which enhance people's well-being. Especially important opportunities for creating community partnerships occur in relation to the National Ecological Network and its related 'urban green space networks'. This project is planned to be finalized in 2018 and will provide ecological connections and conserve characteristic landscape elements and heritage values. At a local level, green space networks will be integrated into spatial planning, so there will be effective links between city parks, new housing and green areas on the urban fringe. Importantly, private stakeholders will be allowed to participate in decision-making processes for green space in the vicinity of built-up areas. The government supports integrated and targeted partnerships with an area-specific approach, co-financing of nature policy, and clear and accountable administrative agreements.

An important source of support for landscape management in many countries has been some kind of 'heritage fund', available through government or charitable organizations to encourage citizen and stakeholder involvement. For example, the Swiss Landscape Fund (SLF) was created by Parliament (though independent of any government department) in 1991, with the goal of establishing sustainable landscapes for present and future generations. The Fund is financed by voluntary contributions from the federal government, cantons and communes, as well as industry and private individuals, and works for the conservation, maintenance and restoration of traditional rural landscapes and threatened natural environments (Fonds Suisse pour le Paysage, undated). It aims to develop synergies between agricultural, tourism, construction and traditional crafts, as well as helping create employment in disadvantaged regions; it distinguishes itself from mainstream state subsidies by concentrating on filling gaps, facilitating alternative practices, providing demonstration projects, and giving start-up assistance. An example of an SLF-supported project is the 'Butterfly Footpath of Lungern', forming part of its 'Holidays at last!—your landscape' programme (a programme to link tourism and cultural landscape management). The project area lies in 'the wild and romantic landscape' of the pastures of Lake Lungern (between Lucerne and Interlaken) and is characterized by unspoilt meadows, forests and foothills, species-rich grasslands, glacial erratics and numerous viewpoints. SLF funding has

provided for the creation of two visitor trails, for which high standard guides have been produced.

In New Zealand (Booth, pers. comm., 2002), particular assistance to community level landscape management has been channelled through the use of trust funds supported from a range of government and non-governmental sources, and/or the support of public-private sector partnerships, such as accords for forest management and re-establishment. The three main landscape funds are the Nature Heritage Fund, Nga Whenua Rahui and the Queen Elizabeth II National Trust, and they may variously be used to purchase land, assist with the associated costs of covenanting, and protect sites. Partnerships appear especially to have been associated with forest management, with particular examples being the New Zealand Forest/West Coast/Tasman Accords and the Project Crimson Partnership. The Accords encompass most of the native forest that is not otherwise protected, and have effectively halted the felling of native timber within state-owned indigenous production forests. Project Crimson is a charitable trust set up in order to facilitate a collaboration between a private forestry company and the Department of Conservation in order to arrest the declining populations of two native tree species.

## **Discussion**

For much of the 20th century, the principal countryside conservation approach was a top-down model based on a combination of strongly protected but relatively small reserves and larger but more passively planned ‘designations’. Increasingly, landscape managers have acknowledged the need for this to be complemented by participatory, adaptable and flexible approaches which recognize the importance of social capital underlying special landscapes. Given the ‘cultural’ origins of valued landscapes in most parts of the world, the continued involvement of local people and visitors through their work, recreation and voluntary activities is critical. This presupposes the availability of principles regarding the role of communities in landscape management.

One very clear observation from the present study is that there is no general solution to the participatory management of ‘landscapes’ by ‘communities’. Thus, whilst participatory landscape management suggests a ‘generality’, in practice most successful examples address a ‘specificity’. Whilst we may popularly understand ‘landscape’ as a



holistic entity and expansive tract of land, it is often more realistic in the current context to think in terms of limited areas and particular features, for these are the capitals with which lay people can easily identify. Equally, the nature of ‘community’ has proved to be quite variable, but typically has involved: stakeholding communities, such as businesses and NGOs, engaged at a relatively strategic level; specialist communities, such as farmers, often collaborating on projects related to environment and tourism; general communities-of-place, especially when pursuing a project of visible local relevance; and interest-driven communities of motivated individuals who stimulate action on issues such as sustainable food or timber production. Lay interests may occasionally take the lead either through membership organizations or spontaneous local action, but more commonly are enrolled through externally facilitated co-management or partnership initiatives.

In particular, the present study found no examples of ‘communities at large’ managing ‘landscapes at large’ because the concept is too diffuse, and the management objectives (related to public goods) too wide-ranging, for a community to develop a sense of commitment and ownership. This concurs with the general experience of researchers and practitioners involved in environmental citizenship: that the public is disengaged from abstract issues, but is more willing to become involved if presented with purposeful and specific opportunities. However, if specific communities are considered and if micro and linear landscapes are also included, the situation with regard to participatory management becomes more encouraging. Here, communities of farmers can be found managing orchard-scapes or communities of environmental groups managing linear greenways, for example. It seems unlikely that ‘general’ communities will manage ‘general’ landscapes, and thus citizen-based initiatives are unlikely to substitute for the strategic planning and management of extensive protected areas. However, there are numerous examples of:

specialist communities managing landscapes at large (e.g. *In Natura* in the Netherlands, where the farming community takes some responsibilities for custodianship of the extended agricultural landscape);

specialist communities managing specialist landscapes (e.g. the Erie

Canal corridor in the USA, where groups of enthusiasts in settlements within the canal corridor assume a range of responsibilities for strategic and detailed management); and

general communities managing specialist landscapes (e.g. the People's Forest Park in Terryland, Galway, Ireland).

These possibilities are illustrated in Figure 2 and more fully summarized in Table 1.

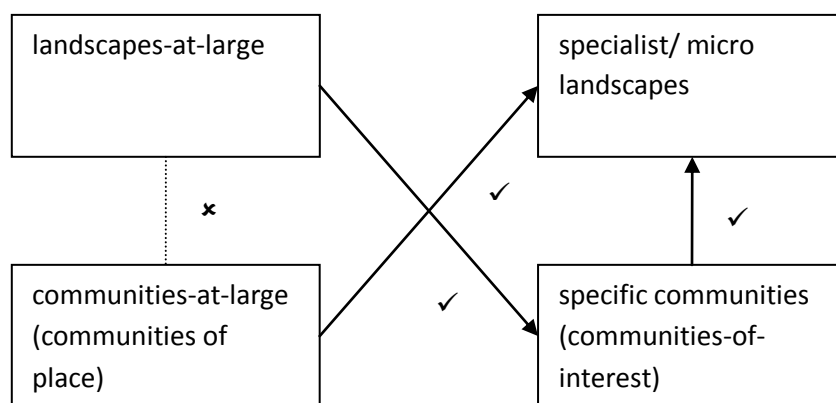


Figure 2 Types of community participation in landscape management

Table 1. Summary of examples of participatory landscape management

	Principal mechanisms	Nature of Community	Role of Community	Role of experts	External inputs	Cultural influences	Successes and failures	Other comments
Adirondack Park (USA)	ecostewardship partnerships	residents, landowners, visitors	responsive to Park Authority	leadership, plan preparation	expertise, legal provisions, financial incentives, funding, bureaucratic support	legacy of ownership conflicts, strong property rights varied	specific projects	
Advisory Boards (various)	Quango (e.g. Danish Game Management Council; NZ Conservation Authority)	public nominees, representative user organizations	advisory, sometimes undertake voluntary wardening	advisory			examples of conflict resolution, integrated resource management attempt to develop landscape as tourism resource	sometimes factitious
Bealach na Gaeltachta (Ireland)	landowners, public	fundraising, design, implementation	design input	grant aid	Gaelic heritage	leisure amenity provision		
Coillte Teoranta (Ireland)	industry-community partnership	stakeholders, public	partnerships with (public) forestry company, input to forest management	design, forest management	finance, land	healing community divisions	art projects, education programmes, recreation resources	
Co-management (various)	management 'regime' (involving 'first nations' and government bodies)	fishing (or other resource management) communities	partnership	knowledge, management, legal, scientific	information, finance, political leverage	traditional 'rights' of 'first nations'	partnership has replaced history of conflict and court orders	
Commonage (Scotland, Ireland and elsewhere)	common pasture/management committees	commoners, other villagers	using and leasing land, investment in projects on common land	advice, e.g. on establishing co-operatives	EU payments	Gaelic heritage, crofting	land management, community facilities	includes cross-border initiatives

Community conservation events (various)	regular events targeting conservation; established local groups	general public, community groups	devising and implementing schemes	expertise amongst local volunteers	publicity, encouragement, delegation	community spirit, social capital	numerous projects, generally small-scale but can be extensive	examples include NZ annual events and Natuurgroep Kockengen in the Netherlands
Community woodlands (Scotland)	purchase, lease	local public, inclusive approach	proactive, establishing Trust	assisted consultative approach	grant aid	links to Forest of Caledon, crofting tradition, history of social protest	local employment, recreation/tourism benefits	
Erie Canal Corridor (USA)	partnership – government/business/community	three tiers of Board – public progressively involved at lower levels	grant given on basis of community-developed plan with maximum citizen involvement	work is led by a Commission; professional production of some master plans	state/federal/policy and legislature; community development grants; supportive structures	strong private property rights	substantial revitalization (N.B. 23 Heritage Corridors)	community involvement is mainly through voluntary action, but also linked to planning and design
Hindelang <i>Natur und Kultur</i> (Germany)	subsidies, codes of practice, value added to farm produce, farmers' market	farmers, local council	helped instigate, practical participation (i.e. through farming)	advisory, applying for grant aid, developing codes/controls	subsidies, visitor expenditure	traditional way of farming life	land management, local produce, tourism	
Hümmel forest (Germany)	ownership, direct management, marketing, certification	village, local council	land ownership, management	forester took/takes lead	certification, visitor expenditure	German forest traditions/law, local ownership of woodlands	fully certified sustainable timber, tourism projects	
<i>In Natura</i> (Netherlands)	networking, local associations	farmers, with wider community involvement	instigated by farmers' Union	facilitate discussion; R&D; link to government	support for networking, advice, etc,	impacts of modern agriculture	numerous case study successes	

TABLE 1. *Соплише*

	Principal mechanisms	Nature of Community	Role of Community	Role of experts	External inputs	Cultural influences	Successes and failures	Other comments
Landcare (Australia)	grant aid, learning groups	farmers, though increasingly the wider public	voluntary, local instigation but Government supported	expert input into learning groups, collaboration between officials and community leaders	advice, finance	severe soil and water conservation issues	social cohesion; little evidence of altered farm production mindsets	typically problem-focused
Landschaps beher Nederland (Netherlands)	co-operation of provincial nature conservation organizations	farmers, voluntary groups	practical conservation work	training, advisory booklets	government grants	country has strong nature planning framework	successful farm conservation work	close working with Landschappen – may be merged in some provinces
Le Crau (France)	agreements over farming practice, subsidies	farmers, conservationists	proactive, inventive	voluntary expert input	mainly locally derived instruments, external subsidies	inapplicability of existing regulatory mechanisms; history of transhumance agriculture	conflict resolution, habitat/water table management	
National Ecological Network (Netherlands)	national plan, partnership	public, stakeholders, NGOs	consultative, participation in certain decisions	expert-led	national policy, financing	national legacy of strong land use planning	area-specific, integrated approach	based on landscape ecology principles
North-Limburg (Netherlands)	atelier	stakeholders, citizen groups in pilot locations	knowledge-sharing	scientific and policy knowledge, facilitation	nature plan policy context	heavily urbanized country; need for 'greening'	innovative ideas generated; little action to date	

Ormanság Foundation (Hungary)	voluntary foundation	villagers, often supplemented by in-migrants (good lifers?)	learning new skills, undertaking 'sustainable' work	centred on sustainable development, organic farming	advice, training, organization	rapid land reform, socio-economic change	failure where projects have not been culturally embedded	interesting examples of relating landscape appearance to economic activity
Oxfordshire 'Four Parishes' (England)	parish conservation plan	local farmers, some residents	proactive, especially through local landowner	FWAG-assisted, County Council-assisted	training in survey methods	partly in response to Hedgerow Regulations	parish conservation plan, hedge management leaflets	economic activity
Palocsa Association (Hungary)	voluntary association	landowners, professionals, village councils	mutual support (practical and advisory)	demonstration, extension work, legal/technical assistance	some bureaucratic procedures, but heavily reliant on informal agreements	rapid land reform, socio-economic change	examples of farm/forest rehabilitation	project-orientated
Plans Communaux de Développement de la Nature (Belgium)	indicative nature plans	public, farmers, interest groups	'commune'-led, involvement in partnership and practical conservation	ecological knowledge	municipal taxation, direct management	small-scale municipalities	more integrated conservation action	
Private sector partnerships (various)	partnership (esp. with forest industry)	conservation, business and other specific communities represented on board	representative; may be involved in volunteering	research, negotiation, provision of materials	legal accords, bureaucratic support	land rights, logging concessions	examples of conflict resolution and native forest recover	
Provincial Landschappen (Netherlands)	FWAG-type organization	membership; farmers and wider public	contribute to management plans, conservation action	advice, technical issues, management plan preparation	central subsidies, policy context of broadening nature planning	country has strong nature planning framework	many village landscape improvements	nature conservation focus, through concern with wider issues than just farming

Table 1. *Continued*

Principal mechanisms	Nature of Community	Role of Community	Role of experts	External inputs	Cultural influences	Successes and failures	Other comments
Restrictive covenants (various)	landowners (enter into covenants), general public (users)	enter caring, using	fund management, evaluating applications	supporting legislation, financial compensation	unsubsidized farm economy; multi-cultural context, world-renowned landscape	widely applied to range of heritage assets	voluntary principle
Rhön Biosphere Reserve (Germany)	farmers, project champions, public sector managers	take lead on proposals that fit in with Reserve 'vision'	financial and administrative assistance, plan production, accreditation	subsidies, legislation, accreditation schemes	positive view of 'designation'	local foods, tourism provision	
SICONA-Ouest (Luxembourg)	residents, farmers, volunteers	'commune'-led, farmers involved as contractors, volunteer input	inter-municipal collaboration	engaging land-workers, machinery purchase, some government grant	small-scale municipalities	increasingly sympathetic farming practices; exclusion of forestry	adverse impacts of CAP
Landscape Fund (Switzerland)	individuals, associations, local/regional councils	devising schemes, making applications	assessing bids, encouraging innovation	contributions to Fund from central/regional government, bequests, industry, sponsorship	strong popular pride in landscape	many projects, some at landscape scale	based on voluntary principle
Te Araroa walkway (New Zealand)	local councils, but wider spin-offs for local economy and public	identifying opportunities	advisory, enabling	lottery funding, corporate donations	'outdoor' image associated with New Zealand landscape	slow progress on ambitious project	

The People's Park, Galway (Ireland)	community-local government partnership	community organizers, environmentalists, public	steering committee	organizing, art, ecology	funding, 'partnership politics'	County Development Board context (integrating community/local authority)	creation of extensive woodland
Visioning 'futures' (various)	deliberative techniques, e.g. Citizens' Jury	selected local public	responding to external initiative, reviewing evidence, generating ideas	facilitated by experts	specific funding	political desire to reinvigorate active citizenship	generated views and future possibilities expensive; experiment only; might not lead to action
Vulkanpark (Germany)	development of tourism/science project	village, local council	interpretation, facility development	developed concept, provision of technical information	concepts, grants	historical importance of site	visitor facilities; potential for scientific research establishment
Wadden Sea Council (Netherlands, Germany, Denmark)	advisory council	Invited national interest groups and local users	advisory	expert-led	expertise, organization, funding	legacy of conflict	conflict resolution complex decision-making processes
Wychwood (Oxfordshire, England)	paid project officer, formal agreements, parish/farm conservation plans	local public, environmental groups	instigated by local residents, followed through by environmental group	information and support	reliant on voluntary support, woodland grants	area of historic royal hunting forest	joint parish projects, established Friends of Wychwood

Entries under each descriptor are illustrative rather than comprehensive



Whilst social, economic, historical and cultural factors play a role in the type of participatory action that occurs, these do not seem absolutely to preclude transferability between countries. However, transferring some examples might require sustained effort and imaginative adaptation, for example to overcome attitudes, ingrained practices or bureaucratic barriers. For instance, in Hungary involvement was often by very small sub-economic farmers, of a type no longer widely found in much of Europe, who might more readily accept low-intensity landscape management. Drawing on a rather different tradition, the legacy of participatory and innovative environmental planning in the Netherlands has created a climate in which multi-stakeholder landscape planning is more likely to ensue, and which could not quickly be replicated elsewhere.

One of the most encouraging features of the research is that a ‘menu’ of techniques appears to exist, and that variants on the same type of measure are applied in a range of circumstances. Whereas national cultures, administrations and legislatures lead to differences of detail in application, the options appear to be at least partially transferable within ‘developed country’ contexts. Communities have become involved in landscape management either on their own initiative, or through persuasion/ incentive from an external body. Thus, in some cases the process has been spontaneous, perhaps originating from communities or instigated by key enthusiasts. At the other extreme, governmental organizations have taken a very firm lead in creating a more participatory culture, and enrolling communities proactively. In some cases, the production of community-led land-use plans has afforded an opportunity to merge grass roots ideas with official planning processes. Where success has been limited, this seems typically to be attributable to insufficient involvement of affected publics at the design and implementation stages, poorly conceived project designs and lack of clear focus of the purposes of a project. Not surprisingly, the more successful examples draw upon a repertoire of regulatory and voluntaristic methods to capitalize on community commitment and existing infrastructure. A recurrent theme, regardless of geographical setting, is the frequent need to link landscape management to a wider socio-economic agenda, such as economic regeneration or employment creation.

One way of generalizing about the ingredients of participatory planning and management is in terms of institutional theories of policy implementation. In essence,

these identify the range of components in terms of: a ‘knowledge’ base of evidence and expertise, both professional and lay; a ‘relational’ base of stakeholders and their associated organizations and networks; and a ‘mobilization capacity’ comprising a repertoire of powers and resources (Healey *et al.*, 2002; de Magalhães *et al.*, 2002; Selman, 2002). An attempt has been made to draw together these elements in Table 2, which summarizes the implementation resources for enrolling stakeholders in multifunctional, cultural landscapes.

**Table 2. Implementation resources for enrolling stakeholders in landscape planning and management**

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Knowledge base
<ul style="list-style-type: none"> <li>• surveys of local landscape character, community resources, etc.</li> <li>• participatory policy development, facilitating idea-generation by communities/ stakeholders (e.g. citizens’ juries)</li> <li>• involvement of specific user groups (e.g. hunting and fishing) in management fora</li> <li>• large-scale, facilitated ‘atelier’ style initiatives to create innovative, multi-stakeholder solutions</li> </ul>
Relational base
<ul style="list-style-type: none"> <li>• individual and collaborative approaches by private, voluntary and public groups/agencies, e.g. NGO-led initiatives to sustain/regenerate landscapes for particular objectives; commune/parish council-led development of landscape plans; public-private partnerships to facilitate access/conservation/forestry/etc.</li> <li>• creation of place-based Boards and Forums to engage local stakeholders</li> <li>• co-ordinated framework for landscape management, along the lines of the Dutch National Ecological Network</li> </ul>
Mobilization capacity
<ul style="list-style-type: none"> <li>• inclusion of landscape features in statutory and non-statutory land use/ local action plans, or ownership of landscape features (e.g. forests) by local government, in certain legislatures</li> <li>• initiatives by farming communities to re-create landscapes which benefit tourism, soil/water conservation and place promotion, often supported by expert advice</li> <li>• pursuit of landscape goals in the context of major external (e.g. EU) funds across a project area</li> <li>• support through provision of know-how, financial incentive and civic leadership</li> <li>• hierarchical policy structures, with lower levels progressively involving grass-roots action</li> <li>• trusts, public funds and covenanting arrangements for creation/conservation of trails, landscape features, etc.</li> <li>• facilitation of community-based events for conservation, celebration, etc.</li> </ul>

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The increasing emphasis on participatory management of cultural landscapes is an important development, and one which is widely being promulgated at all scales from the international to the local. There are many benefits allegedly associated with community involvement, including local economic benefits, active citizenship, maintenance of traditions, increased leverage of funds, raised awareness of multifunctionality amongst land managers, and long-term sustainability of ecological and aesthetic values. Yet, whilst there is indeed some evidence to support such claims,

care must be taken not to over-state the important but prescribed role that communities can perform. However alluring it may be for official agencies substantially to devolve landscape management responsibilities to communities, complete delegation of powers for extensive areas is likely to founder. In general, community-based initiatives are unlikely to substitute for formal management of extensive protected areas, yet it appears they may be highly effective in situations where action is focused upon a definable place or issue of concern.

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### **Introduction**

Interest in landscape as an object of government and voluntary activity principally emerged during the 19th century. This reflected both a romantic concern about the cultural and picturesque landscapes of the “Old World” in the face of industrialisation, and a proto-ecological concern for the sublime landscapes of the “New World” in the face of conquest. During the 20th century, this evolved into a more scientific and administrative concern to delimit and safeguard designated spaces as cultural heritage or biodiversity refuges. Scientific knowledge further supported a growing interest in the reclamation and restoration of damaged landscapes in areas of industrial decline (Selman, 2010). In these expert activities, there was relatively little scope for community involvement in design, planning or management.

In recent decades, there has been rapid diversification of the landscape agenda – essentially shifting it from a sectoral, visual and static entity to an integrative, functional and dynamic one. Thus, there is a trend to represent landscape not as a policy sector, but as an integrative system. It is no longer seen as simply one more natural resource to be factored in alongside others such as biodiversity, forestry and hydrology, but as an overarching framework that synthesises the “services” (Termorshuizen and Opdam, 2009) delivered by all these social-ecological subsystems. Further, there is a growing realisation that landscape is everywhere and matters to all people (Natural England, 2008a), often in subconscious ways. Landscape policy has historically focused on scenic hotspots, and has either overlooked or physically sanitised “the urban centre, the (sub)urban fringe and the rural countryside of the urban network” (Antrop, 2004). Now, we are moving towards the orchestration of a green infrastructure that connects people and place across entire territories (CABE, 2009). There is also a growing importance attached to the multifunctionality of landscape – it is not just something to be spectated, but something that regulates water quality and quantity, helps adapt to and mitigate climate change, supports biodiversity and natural resource production, sustains soil



fertility, promotes health and wellbeing, gives delight, supports sustainable economic activity and energy production, and helps people to attach themselves in time and place (Gill *et al.*, 2008; Landscape Institute, 2009; Selman, 2009). Along with this more functional view of landscape, comes a more dynamic one. Thus, landscape actions increasingly acknowledge the inevitability of contemporary economic and cultural drivers (Natural England, 2009d). Rather than trying to stop landscapes changing, the focus is now on securing appropriate rates of change, from slow to fast, and trying to ensure that drivers are sensitive to local character and scale. More positively, we may even seek to couple contemporary drivers to the creation of new multifunctional social-ecological systems. Alongside all this, is our growing competence in mapping stakeholders, of involving them in assessments of landscape character and value, and engaging them in decisions about landscape protection, planning and management.

### **The European Landscape Convention as a change agent**

Into this changing context has come the ELC. I would like to suggest that the ELC will accelerate substantive changes in theory and practice regarding the European cultural landscape. However, it is an instrument whose effect may be evolutionary and subtle rather than revolutionary and dramatic. Over the past century, our approach to landscape has essentially been twofold: recognising the finest cultural landscapes as heritage, and protecting them through legal measures; and implementing various improvements in ordinary or damaged landscapes. Further, we have provided and managed large areas of urban open space, although we have often not regarded them as strategically connected landscape. Some actions, such as landscape protection and visual impact assessment, have been systematised in law, whilst others have often been opportunistic and reliant on intermittent finance and enthusiastic project officers.

A central issue associated with the present European landscape is the problem that many of our finest cultural landscapes are economically and socially obsolescent. The drivers that spontaneously and serendipitously produced them have largely disappeared, and we are apprehensive about what the new drivers are bringing. Our cultural landscape is therefore changing and it cannot be ubiquitously cocooned, even though it is of profound importance to our shared heritage and identity.

I argue that the ELC is making us look again at the meanings and implications of protection, management and planning, whilst at the same time subtly mainstreaming

landscape into policy, practice and governance. I suspect that its effect may not be dramatic and perhaps not easily disentangled from other influences. Indeed, when we evaluate the ELC we may be disappointed in its lack of measurable and directly attributable impact on legislatures and budgets. However, I think the effect of the ELC will be subtle yet profound: first, in the ways we think about landscape as an integrative framework, principally by liberating it from the policy silo that we associate with “scenery”; and, second, through raising our consciousness about the need for landscape actions, in both town and country, that respond to contemporary drivers in positive, democratic and imaginative ways.

In the text of the ELC, the Preamble promotes what is essentially a multifunctional perspective, referring to sustainable development, culture, ecology, environment, society, economic activity, heritage, well-being, identity, quality of life, rural resource production and civil society. The Convention also uses a generic term for policy and practice interventions, namely, “actions”. These actions comprise a combination of protection, management and planning conducted over mappable territories. Parts of a territory can be protected, parts may be intentionally adapted, and all of it can be managed in various ways (Council of Europe, 2008; Land Use Consultants, 2009a–c; Landscape Character Network, 2009). This terminology subtly draws us away from our inherited mindsets and practices. In particular, it reminds us that conservation of our finest cultural landscape heritage, important though it may be, is not the be-all-and-end-all. Indeed, somewhat to our surprise, conservation does not even constitute “planning”, but is “protection” – “planning” is defined as something altogether different.

I suggest that there are three ambushes that the ELC sets for the traditional landscape professional. First, it promotes a modern view of landscape as a multifunctional system providing a rich variety of landscape services that are not only desirable for people’s enjoyment, but essential for human wellbeing. Second, it democratises landscape by emphasising the role of civil society, often in challenging and unsettling ways. Third, it re-balances our actions, away from an excessive concern for scenic heritage protection, towards more urbanised landscapes and the active accommodation of change. Landscape actions may be protectionist, but they may also be radically adaptive, stimulating the emergence of new cultural landscapes by working with the grain of inescapable economic and cultural drivers.

## **The UK as a case study**

I suspect that the UK Government's approach is fairly typical in relation to the ELC: presenting an argument that it is already compliant, and that any supplementary action is based on goodwill rather than obligation. In this perspective, refinement and targeted exemplary action are desirable, but no urgent substantive changes are needed. Thus, the Government's expressed priority is to raise awareness of existing measures and to make the statutory and regulatory framework more fully effective at different administrative and spatial scales. When key policy areas are being reviewed – for example, planning, energy, marine, agri-environment, heritage, forestry, housing, infrastructure etc. – the Government's intention will be to “raise the bar”. There is an acknowledgement of the scope to improve, but no suggestion of any need for a paradigm shift. The nature of the UK response to the ELC can now be tracked through several policy documents, research studies and action plans that have recently become available.

Policy guidance in England (Natural England, 2009a) suggests that implementation of the ELC will entail:

- Improving performance within the current legal and regulatory frame;
- Influencing future legislation, regulation and advice, and identifying any gaps;
- Improving the understanding of landscape character and dynamics, and monitoring changes and trends;
- Engaging people through activities that raise awareness and understanding, and more generally through, promotion, education & training.
- Sharing experiences and best practice.

If effective, this should allegedly mean that: “all England's diverse landscapes are valued and well looked after... all landscapes will be more effectively planned, well-designed and sensitively managed with people in mind.” This will be promoted through a series of action plans within different organisations in order to:

- strengthen institutional frameworks – promoting a landscape perspective to influence spatial planning, land use and resource management nationally, regionally and locally.

- create an inclusive, people centred approach – raising public awareness and fostering community engagement, as well as working with professionals, specialist bodies and politicians.

In England, the production of action planning is initially centred on three organisations, Natural England, English Heritage and The National Forest (Natural England, 2008, 2009; English Heritage, 2008; National Forest Company, 2008).

Some of the clearest evidence of the UK’s current landscape policy position has been made available through a qualitative content analysis of national and regional documents, undertaken by Newcastle University (Roe *et al.*, 2008). This study revealed the degree to which policy documents espoused the intent of the ELC, and it reminds us that one of the most subtle yet telling impacts of the ELC will be the way that it leads to changes in the language of official landscape discourses. Nuances of meaning can transform the status of landscape from a cosmetic optional extra to an holistic framework. By subjecting key documents to “intent assessments”, the Newcastle study found that even the more progressive documents often only made implicit references to landscape, because they used proxy terms, such as environment or countryside. The use of terminology typically reflects the focus and intended audiences of particular departments, so that even if they use the term “landscape” it may not necessarily convey the human-landscape interactions that are central to the ELC. The researchers found that “the environment sector tends not to use the term *landscape* or other proxies in a way that provides a reflection of the Convention’s intent”, and hence it would be desirable to introduce:

- stronger use of landscape-related language generally ;
- more consistent and precise use of language, providing greater clarity in documents;
- explicit use of “landscape” instead of “environment” or other proxies more generally, especially whenever the holistic meaning is indicated;
- specific use of ELC terms, particularly referencing the definitions set out in Article 1.

We could speculate that one consequence of the more explicit use of ELC terms could be a foregrounding in policy of modern ideas about landscape as an integrating framework.

Another research study, by the International Centre for Protected Landscapes (ICPL) (2008) for the Scottish Landscape Forum, centred on an assessment of what makes for “quality” and “good practice” in the context of landscape protection, management and planning. The study drew particular attention to the capacity of the ELC to mainstream landscape into decisions, and to ensure that it is fully built-in to the process at the outset, rather than as a late entrant. The ICPL study related the idea of mainstreaming to whether signatory countries had:

- a strategic policy vision for landscapes;
- public involvement in landscape matters (ideally supported by legislation);
- indicators to help measure improvements in the quality of people's lives, and
- measures to conserve the natural and cultural diversity of landscapes.

To date, these ingredients are rarely made explicit, and so the researchers had to detect them as “silver threads” running through policies, programmes and projects. The study identified a number of good practice exemplars and sought to explain the reasons for their success.

It also undertook SWOT (strengths, weaknesses, opportunities, threats) analyses of landscape policy in Scotland and other countries’ experiences in implementing the ELC. Success appeared to be principally dependent on a willingness to pursue integrated initiatives, and exemplary action was frequently associated with individual champions, active and iterative public involvement and ownership, and ongoing political support and funding. Even so, there appeared to be a widespread reliance on episodic “initiatives” rather than embedded practice, and on rural (rather than territorially inclusive) expressions of landscape. Strengths and opportunities mainly related to: the intrinsic popularity of landscape and its capacity to engage people and connect them to place; the evolution of a more holistic view of landscape; the emergence of landscape as a policy driver in relation to topics such as climate change and spatial planning, and the emergence around Europe of some excellent new approaches towards landscape protection, planning and management. Weaknesses and threats, though, included

inconsistent approaches towards implementing the Articles, the tendency towards elitist “no change” landscape agendas, dilution of the landscape message because it is dispersed between professions and departments, widespread perception of landscape as a bolt-on rather than a mainstream factor, scarcity of clear national policies, traditional assumptions that landscape is restricted to “fine countryside”, and a perception of landscape as something that is used by objectors to oppose development.

A further research study (Roe *et al.*, 2009), undertaken for Defra and other UK departments analysed how the requirements of the ELC were being met across numerous sectors and identified areas of implicit and explicit landscape coverage. The study found:

- There is a sufficient but somewhat limited basis for “recognising landscapes in law”, particularly through National Parks legislation (natural beauty) and planning policy guidance (amenity and townscape);
- Actions concerning “landscape protection” are relatively strong, notably the designation of key areas (e.g. Areas of Outstanding Natural Beauty) and features (e.g. Tree Preservation Orders), safeguarding of amenity through general planning controls, and minimising visual intrusion of development through environmental impact assessment;
- “Management” provisions are also strong in places, such as direct implementation (e.g. nature reserves) and indirect care (farmers and foresters). This involves a range of incentive and penalty based approaches, and there is some evidence of a landscape-scale approach in the wider countryside. In towns and cities, there is a strong tradition of greenspace provision, but until the recent emergence of green infrastructure strategies there has been little appreciation of it as a coherent landscape;
- Delivery of “landscape planning” is variable, but landscape design occurs as an element within urban design, there is a growing awareness of green infrastructure, there are isolated initiatives to create new urban and peri-urban landscapes and some of these are at the landscape-scale (e.g. central Scotland forest network), and some restoration programmes have been at the landscape scale;
- There has been some integration of landscape into spatial planning policies, though these often focus on fairly traditional “protection” measures. There is

some recognition of the importance of landscape within other policy areas – such as health and wellbeing, climate change, biodiversity and inward investment;

- There is very little explicit development of Landscape Quality Objectives as a result of which it is difficult to say whether things are getting better or worse, or whether the ELC is having any impact. Whilst there are extensive procedures for public and stakeholder participation, these rarely touch upon landscape or lead to the production of LQOs.

Overall, the study found that provision for “protection” is broad and deep though predominantly rural, whilst provision for management is somewhat unsystematic, and provision for landscape planning tends to refer to “set pieces”.

Once again, the weak articulation of explicit LQOs makes it difficult to pursue actions that are appropriately balanced between conservation, reinforcement, restoration and creation – partly as a result of which landscape policy tends to default towards preservationism rather than work with the consequences and opportunities of “change drivers”. Some individual local authorities are now starting to adopt new criterion-based spatial planning policies and these have the potential to diversify our landscape actions. For example, the Shrewsbury and Atcham Council has published a “model” planning policy on Landscape Character, which states that:

The landscape character of the district shall be protected, conserved and enhanced. Proposals for development shall take into account the local distinctiveness and sensitivity of each character area. Development will only be permitted if it protects and enhances and does not adversely affect:

- i) The landscape character of the area including its historical, cultural and ecological qualities and sensitivities and its tranquillity;
- ii) The setting of, and relationship between, settlement and buildings and the landscape including view corridors;
- iii) The pattern of woodland, trees, field boundaries, vegetation and other features;
- iv) The special qualities of watercourses and waterbodies and their surroundings;
- v) The topography of the area including skylines and hills.

It will be interesting to see how such policies are interpreted in practice, and whether consistent and imaginative decisions are now taken that reflect a range of possibilities in relation to fast and slow landscape change.

## **Discussion**

From the Council of Europe's own workshops, and from various research studies, it appears that there is an adequate current level of compliance with the ELC. Indeed, there are some instances of very commendable action in all areas. However, realising the full opportunity of the ELC will involve considerably more than "raising the bar". What evidence can we see that changes of a more radical nature are evolving?

First, the political requirement to demonstrate a respectable response to the ELC coupled with the rising prominence of the landscape agenda generally, are leading some organisations to set out their credentials as landscape champions. They are re-assessing their capacity to deliver landscape objectives, anticipating that an enhanced and modernised landscape portfolio might increase their institutional resilience. For example, English Heritage (2008) has seized on the ELC as a vehicle to promote their role in relation to "place", both re-asserting what they already do and re-directing their efforts towards areas that are seen to be growing in political and social significance. Thus, they define their aspiration as wishing to establish themselves as "a centre of excellence for the historic dimension of landscape in town and country, and in the marine zone".

Second, the ELC is having an effect in shaping new legislation. In a few cases this may be primary legislation. More commonly it is likely to be secondary legislation and guidance. Most signatories concede that, whilst they have little primary legislation on landscape itself, they can brigade a range of other legislation which can be construed as satisfying Article 5a. For example, in England, the Draft National Planning Policy Framework reflects a multifunctional approach to landscape (DCLG, 2011), although it is not always explicitly worded as such. A substantial section on "Planning for Places" draws together various expressions of landscape in relation to climate change, flooding, coastal change, valued landscapes, biodiversity and historic environment. It recognises complementary roles for protection, restoration and re-creation, along with the need for landscape-scale biodiversity measures and green infrastructure networks. The National Planning Framework for Scotland (Scottish Government, 2009) both recognises the



importance of new drivers, such as climate change, in promoting landscape changes such as afforestation, and advocates various ways in which building environmental capital at a landscape scale can deliver important benefits for the economy and communities.

Third, the ELC is having an effect in the democratisation of landscape, specifically the wider inclusion of civil society. This is not an area in which we have been traditionally strong, and even now many of our attempts to involve non-experts in landscape assessment, planning and design seem simplistic and unsystematic. However, in relation to the ELC requirement for awareness-raising, English Heritage (2008) aims to “use the ELC as an opportunity and context to expand public initiatives to promote the historic environment at landscape level.” Within their in-house staff development programmes, they aim to “integrate the ELC concept of landscape into training and related initiatives.” More generally, the public is encouraged to take an active part in landscape management and planning, and to feel it has responsibility for what happens to the landscape. However, this is an area in which practice is often still primitive apart from, perhaps, in the assessment of local landscape character. Our relatively few attempts at involving people in landscape evaluations and decisions have sometimes been platitudinous and patchy. We will need to develop far more effective and systematic approaches to engaging the public in landscape options, and here the substantial rhetoric of the ELC may have a slow but insistent effect. There are effective ways of engaging people in the imaginative exploration of landscape possibilities (Moore-Colyer and Scott, 2005) and harnessing latent energy in the management and maintenance of green infrastructure, but expertise and resources are very unevenly spread at present.

Fourth, the ELC is opening a crucial debate about what we mean by landscape quality and how we set objectives in relation to this (CoE, 2007). Whilst we have made tremendous progress in mapping landscape character, structure and even change, we have achieved little consensus about landscape quality and the setting and monitoring of quality objectives. In regard to Landscape Quality Objectives (LQOs), even the ELC is inconsistent, stating at the outset that these comprise “the aspirations of the public with regard to the landscape features of their surroundings”, a statement which is subsequently abated to one of LQOs being formulated by public authorities “after public consultation”. The latter view seems to prevail and indeed seems more realistic and workable.

I would argue that the setting of LQOs is the key area in which the ELC will promote evolutionary change to revolutionary effect. Landscape planners face a peculiar problem: in most areas of public policy there is a self-evidently desirable “direction of travel”, for example we would not want to see an increase in homelessness or traffic congestion, or a decrease in educational attainment. However, except perhaps in relation to a small number of “perfect” cultural landscapes which we want to preserve intact for posterity, the desired direction of future travel for present landscapes is not necessarily obvious. Even apparently degraded landscapes may have important attributes that “insiders” value and want to retain rather than remediate, whilst significant cultural landscapes might properly be allowed to fade into a vestigial “remanence” rather than be conserved. We know that landscapes are changing but it is not always clear whether they are getting better or worse, or even what better or worse really means. The need for, and success of, landscape actions can therefore only be judged in relation to carefully negotiated and articulated objectives for that particular locality. Perhaps the biggest impact of the ELC will be to force us to develop explicit LQOs for all areas, ascertain their democratically informed “direction of travel”, and create broad and local strategies against which the nature and speed of change can be benchmarked.

Fifth, the ELC’s definition of landscape applies to the whole territory of states including all urban and peri-urban landscapes, towns, villages and rural areas, the coast and inland areas. It applies to ordinary or even degraded landscape (Ling *et al.*, 2007) as well as those areas that are outstanding or protected. This sheer inclusivity of definition will, I suggest, have a far-reaching impact on our theories and practices. In effect, it is promoting two lines of action in relation to the “ordinary”. On the one hand, we are beginning to recognise that “all landscapes matter”: although this principle is now quite effectively articulated, it is rarely being given real meaning in front-line practice. Most practitioners still tend to think of landscape action as largely referring to the conservation of special rural areas, or to the design of urban public realm. Techniques such as Landscape Character Assessment, Seascape Assessment and Historic Landscape Characterisation are at least helping us to document and describe all landscapes including the mundane. On the other hand, having affirmed that local and undistinguished landscapes matter because of their associative and utilitarian uses for local people, what actions do we take in respect of the ordinary? We cannot promise to preserve every patch of “common ground” in perpetuity. We cannot offer to shower

taxpayers' money nor subsidise community actions in respect of them all. In sum, the ELC has underpinned an awareness that “all landscapes matter”, but it has exposed lacunae in terms of what we do about this.

Sixth, the ELC is subtly re-focusing the way in which we think about change. Whilst planners and managers have endorsed the notion of landscape change at a cerebral level, our frontline practice has tended to be very conservative in relation to the acceptable types, directions and rates of change. Few landscape planners are brave enough to really embrace contemporary drivers of change and couple them to the emergence of new and potentially very different landscapes. In some contexts slow change is desirable, but in other situations our conservative tendency towards the inherited landscape may exert an unhelpful inertial drag. Landscape is a dynamic, complex system of which the reality, representations and perceptions have changed through history in response to physical processes and human intervention. The rate of change in the future is likely to accelerate further driven by natural environmental processes, induced climate change, technological advancement, economic and market trends, social and cultural trends, changing values, and policy and regulatory interventions (Land Use Consultants, 2009a). These drivers are strongly inter-related: most changes in the landscape are attributable to more than one root cause and their acceptability is filtered by changing social values. The need for creative and adaptive approaches towards landscape as a dynamic system are essential yet there is little in legislation or policy guidance to help or guide us about options for change.

### **Future prospects**

There are mixed views about whether the ELC will have any real long-term impact on important areas of governance and enterprise. This paper has suggested that its effect may be subtle and gradual, perhaps only initially detectable in the use of more explicit terminology. However, it is quite likely that new and important things will be said, written and done as a consequence of the ELC, slowly leading to some fundamental shifts. Not least, the ELC, whether intended or not, is making us face up to some difficult problems associated with responding to contemporary drivers of landscape change, involving stakeholders and the wider public, celebrating the “ordinary” as well as the “special”, and negotiating measurable and place-sensitive objectives for landscape quality.

Returning to the title of the paper, I suggest that these shifts will be reflected in a re-balancing of some key landscape practices. First, the ELC awakens us to the fact that our actions must combine protection, planning and management. It forces us to re-think what we mean by these distinct yet complementary activities and how we might strike a more even balance between them. In particular, it reminds us that landscape is not something that is simply inherited, but something that is constantly being managed, enhanced, restored and created.

Second, the ELC is leading us to find a new balance between conserving Europe's outstanding landscape heritage, and giving meaningful expression to the axiom that "all landscapes matter". Landscape is now seen as a multifunctional system that delivers a wide range of ecosystem services to diverse communities in all geographical settings. The realisation of these essential services cannot be left to scattered short-term projects, and they merit the same systematic attention that we have given to our national and regional parks.

Third, the ELC is promoting a new balance between insiders and outsiders in landscape. We have very good experience of expert management of special areas, scientific restoration and remediation of post-industrial landscapes, assessing landscape quality and impact, and designing public realm. We have become quite good at involving local people in the more fine-grained aspects of landscape character assessment, and have undertaken some research into people's local landscape preferences. There are a number of good practice case studies of community level action to manage open space. However, I think we are a good way off really understanding how people perceive and value everyday landscapes, and of factoring this information into landscape quality objectives. The ELC requires a step change in this area, and will require new theories about subconscious appreciation of the landscape and people's acceptance of change – otherwise I think the "public" input will tend to be banal and anti-development.

Fourth, the ELC is forcing a reassessment of the balance between town and country. In popular mythology, the landscape is something beautiful and rural. In reality, landscape is everywhere, from the metropolitan centre, through the urban fringes and edge cities of polycentric urban clusters, to the remotest mountains. A major future task for landscape planners will be to re-connect social-ecological systems that have been

severed, and to blur the boundary between urban and rural so that nature and food production sweep through the green infrastructure of cities.

Finally, the ELC requires a new balance between protectionist and proactive approaches. By distinguishing between the actions of protection and planning, the ELC firmly reminds us that the safeguard of our finest landscape heritage is only one side of the coin. Creating future landscapes, often by working with “change drivers” is going to be increasingly important, especially as we seek to re-connect systems in order to respond to environmental drivers such as climate, biodiversity, and the problems of too little or too much water.

The ELC, therefore, whilst perhaps only a background ripple on the overall political scene, has the potential to gradually bring about substantive changes in our science and policy. One further re-balancing effect that I think it will have is to establish Europe as a greenprint (McEwen and McEwen, 1987) for other parts of the world. Presently, there is an over-emphasis on the cultural landscapes and greenspace systems of the “old world”. These, of course, are incredibly important – but so are the urban and rural landscapes of the rapidly developing countries. There, the growth of megacities and intensification of agriculture pose major threats to landscape services, with profound implications for sustainability and liveability. I anticipate, therefore, that a new balance will be struck between the attention given to the landscapes of developed and developing countries. One lesson of the ELC is that Europe’s landscapes are so important that we need to share good practice in all areas of protection, planning, management and education. Another lesson is that this experience is too important to keep to ourselves, and that we must encourage the rest of the world to access our greenprints.

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## **3.5 Future Trajectory**

### *3.5.1 Preface*

The last publication in this collection is included as a ‘stand-alone’ output, because in some respects it summarises the candidate’s journey and provides pointers to future research. It represents an important staging post in the candidate’s evolving ideas about the nature and significance of landscape as an integrating framework. It reflects the pertinence of resilience theory both as a lens through which to study the evolving cultural landscape, and as a basis for promoting complexity and capacity within an adaptive style of planning, so that landscapes can be assisted to recover positively from perturbations.

By this point, the candidate is representing landscape not only as a cross-disciplinary phenomenon and policy domain, but also as a conceptual and practical framework for navigating the sustainability transition towards a more resilient future. Further, landscape is being viewed as space in which individuals, communities and organisations experience quality of life and sustainable development.

The chapter is thus a consolidation of a journey, as well a departure point from which a democratically informed view of options can form a basis for a resilient and legible ‘future landscapes’. In turn, this reflects one of the candidate’s recurrent concerns – namely, that, given the complexity of arguments, there is an ever-present risk of expert views being represented as desirable and even inevitable futures. Vigilance is therefore essential to ensure that science-based strategies are accountable to wider social preferences; the candidate therefore seeks to reconcile processes which are expert-led with those of a more deliberative nature.

### 3.5.2 *Output 10*

Selman, P (2012b) Landscapes as integrating frameworks for human, environmental and policy processes. In: T Plieninger and C Bieling (eds) Landscape and Resilience, Cambridge University Press, p27-48. (Note: this output was a chapter in a book published by Cambridge University Press, and subject to extensive peer review).

#### **Introduction**

Although the term landscape has acquired various meanings between cultures and over the centuries (Wylie, 2007), its perceived qualities have consistently related to landform, aesthetics, history, regional identity, rules and customs. It has thus been understood as a territory, whose essence can often be apprehended in a single gaze, and possessing a distinct visual and cultural signature. Latterly, the idea of landscape has become more encompassing, as it has extended beyond the realms of aesthetics, physical geography and human geography to include ecological processes and human well-being. In this perspective, it is a physical and conceptual nexus in which many human and natural systems find their integration – it is an indivisible whole possessing intimately connected form, function and meaning.

While both natural and social scientists have long acknowledged the dynamics of cultural landscapes, public policies have tended to adopt a more static approach, either seeking to designate areas of fine scenery or to mitigate the visual impact of development. Contemporary landscape policy, however, more actively embraces ‘drivers of change’ (Schneeberger *et al.*, 2007; Winn *et al.*, 2011), by both promoting sustainable management of landscape per se, and influencing the practices of other landscape-producing activities such as forestry, agriculture and construction (Figure 2.1). While all landscapes are dynamic, however, their nature and pace of change differ greatly and thus they require tailored strategies reflecting a deeper understanding of where they have come from and where they are going to. For example, the European Landscape Convention (ELC) (Council of Europe, 2000) promotes strategies with different balances between ‘planning, management and protection’.

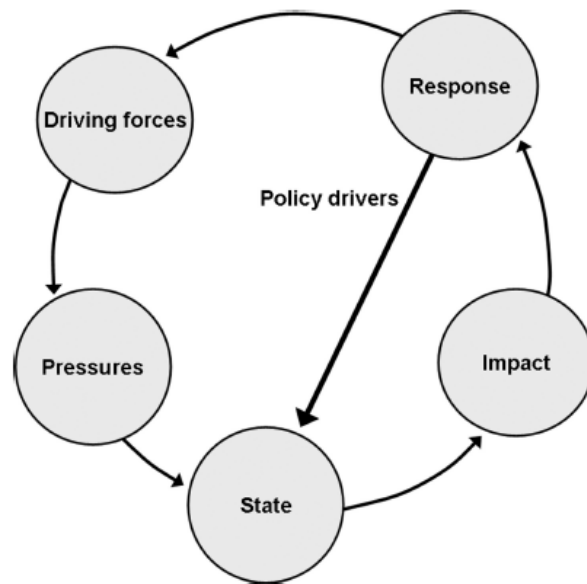


Figure 2.1 Basic drivers of landscape change. Source: adapted from EEA (1995).

Current discourses therefore emphasise social contest, physical flux, and spatiotemporal trajectory. One of the most promising avenues of enquiry in this regard is afforded by resilience theory, which represents spaces as social–ecological systems – where social may be interpreted to include everything about people and their economy, and ecological to include the totality of physical and biotic environmental systems. Resilience theory invokes the mathematics of chaos, but this has chiefly been applied to comparatively small-scale ecosystems where the level of complexity is not overwhelming. When landscape-scale systems are considered, formal modelling becomes intractable and resilience theory tends to be applied in a more conceptual and metaphorical manner (Holling & Gunderson, 2002).

This chapter aims to introduce some key ideas about change in cultural landscapes, to distinguish between resilience as a general concept and resilience theory *per se*, and to consider whether it is useful and valid to treat cultural landscapes as social–ecological systems. It offers a broad view of the general applicability of resilience theory to landscape research and practice, and sets out some initial ideas ahead of more detailed explorations in subsequent chapters. This chapter looks at how landscape governance

has shifted from a focus on fine scenery to a more complex pursuit of sustainability and multifunctionality at a range of scales. It emphasises that cultural landscapes, whilst often appearing to be stable and timeless, are subject to endemic drivers of change, and hence decision-makers need to be sensitive to the ways that these drivers are transforming traditional landscapes and producing potentially important future landscapes. Finally, it reflects on resilience theory as a basis for understanding desirable and undesirable change in social–ecological systems.

### **The changing cultural landscape**

Cultural landscape is a widely contested term, and it is critically explored in later chapters by Head (2012), and Kirchhoff *et al.* (2012). For convenience, I have used the term pragmatically, without dwelling on extensive debates about the meanings of nature and culture. I refer simply to landscapes that have been significantly deflected from their pristine condition by periods of human use. In the terms used by Phillips (2005) for the IUCN, a cultural landscape comprises nature plus people, past plus present, and physical attributes plus associative values.

The cultural landscape is widely acclaimed as a precious and irreplaceable resource. This is largely because cultural landscapes, especially rural ones that have been hand built and trodden over centuries, are frequently pleasing to the eye. Even though they may sometimes have been the product of economic turmoil and social dislocation, the passage of time has treated them benignly. Traditional vernacular landscapes have given space to the processes of nature and have acquired a level of diversity and complexity that satisfies human cognition and emotion. The landscapes of Europe are often deemed pre-eminent in this regard and, in terms of heritage and touristic appeal, are considered to be as important as its cathedrals, castles and townscapes. However, similarly valuable cultural landscapes have been identified and documented in all parts of the world. The immediate appeal of these landscapes generally lies in their visual complexity, coherence and distinctiveness. Latterly, however, we have identified additional values in these heterogeneous, slow-changing environments related to their capacity to provide multiple ecosystem services. There is, though, a paradox at the heart of many of these landscapes. While we seek to protect them against insensitive change, we have often overlooked the inevitability of transformation where inherited patterns of land use lose their relationship to contemporary drivers. Further, there is also another type of cultural

landscape – the landscape of despoliation where urban and industrial cultures (and sometimes even agri- or silviculture) have seriously degraded landscape functionality. Such damage has occurred throughout history but, in the past century or two, technological capability has often overwhelmed the regenerative capacity of nature to heal the scars graciously. Recent phases of urbanisation and industrialisation have thus created landscapes where reclamation needs to be assisted and accelerated if it is to happen within human (or political) timescales. Thus, on the one hand, contemporary drivers of change rarely appear to be spontaneously creating valuable new cultural landscapes; on the other hand, change drivers seem to be tipping some landscapes into undesired, incoherent and functionally impoverished states that are difficult to reverse.

Over the past generation, in more affluent societies, rural land use practices have tended to shift from production to consumption (Slee, 2005) – away from a predominant emphasis on food and fibre towards a wider range of human demands such as leisure and residential amenity. Sometimes, consumption related activities have been effective in retaining appearances in heritage landscapes, so that the visible traces of heritage, such as stone buildings and herb-rich meadows, have experienced new income streams that support their upkeep after the original production driver has faded. However, mainstream production drivers now rarely seem to be leading to the spontaneous emergence – through moments of serendipity and surprise – of new landscapes that are in-dwelt, diverse, multifunctional and legible.

Faced with this dilemma, there is no simple policy response, because the societies and economies that produced our favourite landscapes are obsolescent; former land use practices have been replaced by very different market forces, technological devices, public policies and popular cultures (Table 2.1). Inexorable pressures associated with globalising forces (Germundsson *et al.*, 2011; Primdahl & Swaffield, 2010) are making cultural landscapes more ‘international’ in appearance and function, eroding the facets that make them distinctive and intimate. This creates a fundamental paradox at the heart of landscape science. The cultural landscapes that we typically most wish to retain are those that were produced by obsolete economies and technologies, especially those farming practices that are being abandoned because of their capital and labour inefficiency. To some extent, government policies and the activities of nongovernmental organisations enable these practices to be continued, in a way that parallels former traditions of benign patronage. Thus, policies aimed at nurturing multifunctional

landscapes now draw upon general taxation and lever money for landscape creation from utilities and developers, supplemented by partnerships with third-sector organisations.

However, while public policy has become an increasingly important driver in its own right, and is particularly influential in driving the willingness of resource managers to deliver ecosystem services, it is often inefficient, behind-the-curve and vulnerable to cutbacks. Because it is not part of the warp and weft of a locally embedded economy and society, it struggles to deliver those aspects of cultural landscape evolution that emerge through fortunate accident. Indeed, as a general basis for landscape policy, massive public subsidy to farmers may be neither desirable, affordable nor practicable in the long term. In terms of sustainability, we may need to accept the passing of some valued landscapes, provided their vestiges are not insensitively erased, and provided we can learn how to work with contemporary change drivers to secure new expressions of spatial resilience.

Table 2.1. Some key change drivers in contemporary cultural landscapes

	Examples of key change drivers
Driving forces	Climate change New technologies Demographics Energy Invasive species Food security World economic power shifts Health and well-being Values and changing social expectations about landscape Community cohesion
Pressures	Land development and intensification Biotechnologies and genetic modification Redevelopment of brownfield land Water abstraction Changing modes of energy production and transmission Edge cities
State	Traditional vernacular landscapes Wilderness and relative wildness New spatial and linear landscapes
Impact	Changing landscape character and distinctiveness Changing production and consumption roles Loss of landscape-scale resilience in water catchments and coastal landscapes Disrupted ecological source–sink processes at multiple spatial scales Species' range shifts and phenological disruption due to climate change
Response	International (e.g. European Landscape Convention) and national policies Green infrastructure and spatial plans Community land purchase Payments to farmers for ecosystem services Landscape protection and regeneration measures Central government and its agencies Utility companies and infrastructure providers Development companies NGOs and community groups Social and institutional learning Tourism partnerships
Policy drivers	Transnational, national, regional and local policies Community and NGO action Green economics

In 1972, the (former) Countryside Commission in England initiated a series of studies into the radical changes that were taking place in agriculture and concluded that, for most of the countryside at least, change and modernisation were inevitable (Westmacott & Worthington, 1997). However, they remained highly concerned that changes, partly through farmers' lack of awareness and partly because of economic realities, could be disastrous in terms of wildlife and visual interest. The response was to promote 'new agricultural landscapes' which, although different, would be no less valuable than the ones they replaced. Scenic and ecological values could be recaptured in alternative land use patterns that were compatible with efficient modern practices. In contemporary discourse, we could restate this as saying that traditional cultural landscapes, often through serendipity, had acquired great biodiversity value and visual character; left to individual actions and market forces alone, they would become less distinctive and resilient as time elapsed. Somehow, the wider public interest would have to be accommodated so that drivers might produce, rather than diminish, ecosystem services.

Although the original study was conducted a generation ago and the terminology has changed, its core argument endures.

### **Changing perspectives on landscape governance**

One of the defining features of resilience theory is that governance and management mechanisms are integral to, not external controllers of, the social–ecological system. It is appropriate, therefore, to consider the role of planning and policy in steering cultural landscapes. Historically, land use governance has often been conducted on a sectoral basis, and this mindset persists. In this approach, spaces are identified for a principal use such as transport, housing or scenery, and each sector is addressed to some extent by separate specialists operating according to their own techniques and traditions. In such a system, there is little integration between sectors, and landscape planning has tended to be undertaken by specialists who are expert in describing, mapping and protecting fine scenery – sometimes as a sector of land use in its own right, sometimes as a subsector of heritage or nature conservation. This sectoral policy view of landscape has tended to emphasise protective measures to reduce the rate of change in official areas of 'natural beauty'. Simultaneously, other sectors – such as agriculture, forestry, energy and transport – have precipitated major land use change, although consideration of their



landscape effects has often been limited to ameliorating their amenity and visual impacts (Selman, 2010).

This conception of landscape and its associated policy response contains six principal shortcomings. Firstly, sectoral landscape policy has tended to equate landscape with scenery and has given primacy to the visual sense, concerning itself mainly with countryside that meets élite aesthetic criteria. This is at variance with the contemporary view that ‘all landscapes matter’ and that landscape is the frame in which human and environmental systems are integrated (Natural England, 2011b). Secondly, it parcels the countryside into different sectors – such as landscape, wildlife, agriculture, forestry and recreation – without adequately appreciating their systemic interconnections.

Thirdly, the sectoral perspective adopts a relatively static view of landscape, rather than one that actively embraces change. Of course, it must be acknowledged that the deceleration of insensitive change in beautiful countryside has been and remains very important, although it is only one dimension of a mature landscape policy. Fourthly, it presumes that landscape is something rural, rather than something that may be found in country, urban fringe and town. Indeed, landscape may be the connective medium between these environments, providing visual strength and identity as well as continuity and integrity of ecological and hydrological networks. Fifthly, it sees landscape as something that is essentially locally generated whereas, increasingly, local landscape changes are contingent on the dynamics of distant landscapes. Intensification of production or land abandonment in one part of the world will have pervasive consequences, sometimes causing other landscapes to follow suit but possibly also enhancing the scarcity value of vernacular landscapes and reviving their role as loci for consumption activities. Finally, it sees landscape as an object to which society does something – protection or reclamation, for example. It does not see landscape as a multifunctional system doing something for society, whose loss of resilience might undermine our capacity to live well. It is now widely acknowledged in scientific and policy circles that landscape implies much more than a scenic resource. Landscape integrates all natural and human systems and thus operates as a framework of dynamic interdependencies between people and place. Although it is the visible expression of ecosystem services, many landscape properties remain unseen or barely perceptible to the outsider’s gaze. Lying beyond the surface are layers of cultural information and cycles of energy and matter (Stephenson, 2007) (Table 2.2).

Table 2.2. Seen and unseen qualities of cultural landscapes

	Relationships	Practices	Processes
Experience	Memories Symbols Spiritual qualities Meanings Aesthetics Sense of belonging Stories In-dwelling	Creating meaningful places Experiencing health and well-being through landscape Pilgrimage and hefting	Globalisation of culture Inhabiting virtual landscapes Place-making
History	Genealogical links Laws and customs	Traces (remanence) of previous land uses and structures Legacies of invasion, colonisation, etc.	Decay and renewal
Land use	Formal land ownership and rights	Construction Farming Forestry Energy production and transmission Communication	Influencing water, air and soil dynamics
Wildlife	Ethical attitudes towards nature  Cultural perceptions of 'weed' and 'pest' species	Wildlife management  Re-wilding  Effects of afforestation, deforestation, agricultural intensification	Life-cycle processes of wild species
Natural form	Sacred sites	Land drainage Restoration and reclamation Land remodelling, reseeded, etc.	Landform evolution Soil development and degradation Coastal processes

Source: mainly based on Stephenson (2007) and Natural England (2011a).

This chapter's proposition is that landscape might purposefully be represented as a temporally dynamic social–ecological system. If so, this raises interesting possibilities. Firstly, our growing awareness of the dynamic and complex properties of landscape has led to an interest in its multiple functions, values and ecosystem services, and how these manifest themselves as spatial patterns and processes (Termorshuizen & Opdam, 2009). Consequently, it is now common to promote multifunctionality at a landscape scale as an alternative to earlier multiple use and rural resource optimisation models, which tended to pursue a narrow range of maximised outputs (Willemen *et al.*, 2010). Secondly, there is a growing concern about the progressive disconnection of structures, functions and systems in cultural landscapes as a result of intensive land development and resource exploitation. For example, wild species have been increasingly unable to 'find space' for their life cycle processes within progressively fragmented vegetation

cover (Lawton *et al.*, 2010), rivers have experienced ‘engineered disconnection’ (Wheater & Evans, 2009) from their floodplains, while people have become increasingly detached from place (Miller, 2005). Thus, scientists and policy makers display a concern for reinstating landscape connections over time and space. Thirdly, governance is understood as a multipartite project among key agents embedded within the landscape system, rather than as an external controlling agency. This creates possibilities for social and institutional learning that can reduce our vulnerability to ‘future shock’, and may help build the necessary resilience to forestall rapid deterioration into alternative stable and resistant, but undesirable, system states.

### **Landscape change and resilience**

Landscapes, especially those that are predominantly cultural in nature, are subject to endemic change, despite often appearing timeless. We must accept, therefore, that landscapes are systems in which change, of varying degrees of speed and sustainability, is inevitable. For much of the twentieth century, a main thrust of landscape policy was that of stopping or slowing changes that conflicted with aesthetic taste. This taste was often fixated upon historically specific scenic signatures, such as the enclosed agricultural landscapes created in England during the eighteenth century. Modern landscape policy acknowledges the inexorability of change and adaptation, although it is rarely clear whether changes are for the better or worse, and whether social attitudes will harden or soften towards particular changes. Some policies actively embrace certain drivers of change as a means of delivering restoration and enhancement in particular situations. For example, the National Forest Company in the English Midlands has capitalised on environmental gains extracted from development projects and economic regeneration programmes to create new yet distinctive landscape in an area that had been fragmented and disrupted during phases of industrial exploitation and decline. Similarly, the emerging Forest Habitat Network in central Scotland arises from economic and policy pressures to establish new commercial and amenity woodlands for timber production and atmospheric carbon management. Rather than resisting change, therefore, the agenda is increasingly one of seeking new modes of sustainable development for landscapes that already appear to be resilient, and to seek the adaptation of undesired landscapes into more resilient and self-sustaining states (Figure 2.2).

However, a distinction needs to be drawn between resilience and resilience theory. Resilience is a term that has become a byword in many areas of government policy. In essence, it suggests moving away from seeking a single, optimum solution, and concentrating instead on building sufficient complexity, capacity and flexibility in systems so that they can recover, and even evolve positively, from perturbations. Cultural landscapes, as dynamic human–nature systems, are often vulnerable to changes that impact on land uses and livelihoods. Vulnerability is thus a measure of the degree to which a landscape might be at risk of temporary or permanent loss of functionality following an impact. Clearly, this depends on the characteristics of the landscape as well as the strength of the impact. In the popular use of the term, resilience is effectively the opposite of vulnerability.



Figure 2.2. Reinforcing landscape connectivities: development of a multifunctional green infrastructure in west central Scotland.  
Photo: Glasgow and Clyde Valley Green Network Partnership.

There is no universal definition of resilience as it is currently used in policy circles. One politically influential definition sees resilience as ‘the capacity of an individual, community or system to adapt in order to sustain an acceptable level of function, structure, and identity’ (Edwards, 2009). Writing about coastal landscapes, Woodroffe (2007) emphasises a multidimensional notion of vulnerability, relating both to natural biogeophysical response, and to economic, institutional and sociocultural aspects. Vulnerability is the degree to which a coast is likely to be affected by or withstand the consequences of natural or human impacts, while sensitivity refers to its responsiveness and likelihood of failure, and resilience reflects the ability of the coastal system to

recover or return to some quasi-stable state. McFadden (2010) notes that this has traditionally been connected to a scientific perspective of natural resilience, but now increasingly requires building social, cultural and institutional resilience such as management response and public willingness to accept degrees of risk. In relation to biodiversity, Lawton *et al.* (2010) advocated increasing the coherence of ecological networks in order to promote complementarity and mutual reinforcement between elements so that the value of the whole network was greater than the sum of its parts. It defined a resilient network as one that was capable of absorbing, resisting or recovering from disturbances and damage caused by natural perturbations and human activities (including climate change) while continuing to meet its overall objectives of supporting biodiversity and providing ecosystem services. A number of researchers suggest that species populations are often predisposed to loss of resilience by factors such as poor management, nutrient enrichment, over-abstraction of water, pollution, habitat fragmentation, increasing competition for resources and space, and disturbance by visitor pressure.

One way of appreciating the growing importance of a resilience-based approach is to consider former US Defense Secretary Donald Rumsfeld's well-known classification of 'knowns' and 'unknowns'. Many issues are 'known knowns' – we are very familiar with their nature and characteristics and, therefore, can predict future system behaviour with reasonable certainty and lever desired outcomes via well-established policy mechanisms. In some situations, however, information may be known by only a few, and not be generally available to citizens and decision-makers ('unknown knowns'). Again, certain future risks may be unprecedented, thus we do not know in detail how to respond or whether our responses will be effective but we are, at least, broadly aware of the potential likelihood of the problem and its parameters of risk ('known unknowns'). However, some future risks have not yet even been anticipated, defined or modelled, hence, we cannot even prepare for their eventuality ('unknown unknowns'). In a situation of known knowns, conventional predict-and-control models for spatial planning and resource management are often sufficient. However, as we move into an uncertain future of a full-up world undergoing climate change and other global perturbations, we are progressively heading into the territory of unknown unknowns. Here, we cannot predict-and-control; instead, we must concentrate on building resilience (Figure 2.3). With respect to cultural landscapes, we need to build resilience

in their natural and information systems in order to improve adaptive capacity to absorb and rebound from unforeseen impacts.

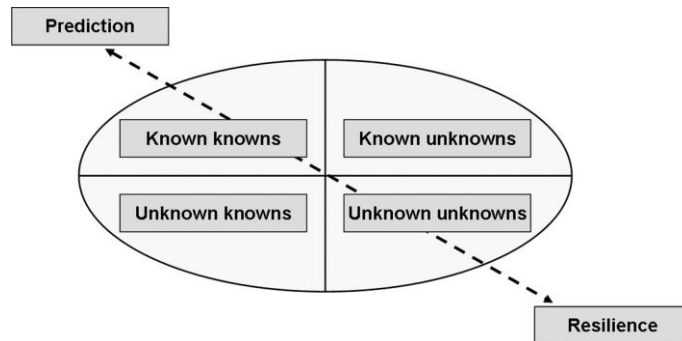


Figure 2.3. The more uncertain the future conditions, the more a resilience-based approach becomes necessary.

One formalisation of the general principle of resilience has been resilience theory, based on an explanation of the way that a social–ecological system behaves and how it moves from one system state to another (Walker *et al.*, 2004). The essential purpose of resilience theory is to challenge two classical assumptions about natural resource management. The first concerns the ecosystem itself, in respect of which early theorists assumed that plant communities and their associated wildlife would progress through seral phases to a climatic climax ecosystem in a predictable sequence unless their delicate balance was disturbed by humans. Resilience theory argues, by contrast, that alternative stable states, often quite robust and forgiving, exist for similar ‘climatic climax’ or ‘cultural climax’ situations. The second relates to management and policy interventions, which traditionally have been based on a presumption that the management agency is external to the system being managed, and that it will control internal and external drivers of change. Now, it is accepted that ecosystem managers and other land users are themselves an integral part of a social–ecological system. Social–ecological systems are thus coevolutionary systems, with social and environmental systems coevolving in terms of knowledge, values, social organisation and technologies (Kirchhoff *et al.*, 2012). Alternative stable states are nontransitory and, therefore, considered stable over ecologically relevant timescales, although the systems may move from one stable state to another – a state or regime shift – when perturbed by an accumulation of impacts. Owing to ecological feedbacks, ecosystems display

resistance to state shifts and, therefore, tend to remain in one state, although there is evidence of situations where processes of smooth change can be interrupted by sudden drastic switches to a contrasting state (Scheffer *et al.*, 2001). While transitions to an alternative state can be triggered by various impacts, the way is usually paved – especially for undesirable state shifts – by a progressive loss of resilience.

Unfortunately, unravelling the mechanisms governing the behaviour of spatially extensive ecosystems is exceptionally difficult, because it requires understanding phenomena that operate and interact as a panarchy, that is, over many scales in space and time. Broadly speaking, however, resilience refers to the extent of a basin of attraction around a state, which corresponds to the maximum perturbation that can be absorbed without causing a shift to an alternative stable state. In systems with multiple stable states, gradually changing conditions may have little effect on the state of the ecosystem, but the reduction of the size of the attraction basin causes a loss of resilience that makes the system more fragile so that stochastic events can trigger a regime shift into an adjacent basin. Because the two elements of change in cultural landscapes – ecosystems and social systems – are hypercomplex and not readily susceptible to prediction or control, many decision-makers now seek an approach aimed at building resilience and adaptive capacity in a social–ecological system rather than trying to analyse and engineer some supposed optimum condition. They also seek to adapt to future circumstances partly on the basis of stored wisdom from the past.

Changing approaches towards ecosystem management – shifting from a focus on preventing disturbances towards accepting them as natural contributors to diversity and renewal, and rebalancing attention away from short-term perturbations towards underlying attitudinal and structural problems – are increasingly leading to landscape-scale strategies. For example, at Wicken Fen in Cambridgeshire, England, the original conservation solution sought to maintain historic water tables in a small isolated set-piece while the wider region was progressively drained to create arable prairies. Recently, landscape measures there have focused on re-establishing wet conditions over a hydrologically coherent area so that something resembling the former, self-maintaining and emergent ecosystem can be recovered. A similar project nearby involves the restoration of a ‘Great Fen’, which will provide a wider ecological context for the existing remnant patches of Holme Fen and Woodwalton Fen National Nature Reserves.

Resilience theory aims to reduce the risk of unwanted state shifts, and thus directs efforts away from controlling disturbance and towards addressing the gradual changes that compromise resilience. The challenge, therefore, is to sustain a large stability domain by focusing on slowly changing variables such as land use, nutrient stocks, soil properties and biomass. Maintaining the resilience of these variables is likely to be the most effective way to manage social–ecological systems rather than attempting to control perturbations – not least because an inherently resilient system will tend to adapt to most fluctuations. This principle of focusing on slow-change variables, which retain memory and adaptive space, rather than seeking to control more superficial qualities has fundamental implications for understanding cultural landscapes as resilient social–ecological systems.

### **Landscapes as resilient social–ecological systems**

The previous section affirmed that resilience theory is pertinent to landscape-scale ecosystem management; the question for this chapter is whether its relevance can be extended to cover cultural landscapes more generally. As noted near the outset, cultural landscapes are so spatially and temporally complex that formal mathematical analysis and models, such as have been used by resilience theorists for some ecosystems, may prove overwhelming. Conveniently, resilience theorists suggest that their ideas can be applied metaphorically as well as formally (Walker & Salt, 2006), offering us powerful concepts and language to understand the change trajectories of whole landscapes. Further, Cumming (2011) refers to ‘spatial resilience’, affirming the strong similarities between social–ecological systems and real-world landscapes, and exposing the ways in which most system processes have a spatial component. Spatial resilience thus describes the interplay at different scales between a system’s spatial attributes and its key constituents (e.g. elements, interactions, adaptive capacity and memory). Garmestani *et al.* (2009) have also suggested that the discontinuities and thresholds associated with adaptive cycles operating at discrete scales within panarchies may be especially important to the phenomenon of landscape-scale ‘emergence’.

Cultural landscapes also appear to behave as large-scale social–ecological systems in terms of the dynamics and synergies associated with economic production. Landscape governance often seeks to stimulate dynamic couplings between ecological and social systems so that the two are mutually reinforcing, promoting styles of economic and



social entrepreneurship that derive reward from distinctive and resilient landscapes, enabling people to be self-motivated to invest time and money in their care (Gobster *et al.*, 2007). In many landscapes, vicious circles of natural resource overexploitation, community dissipation and landscape abandonment or dereliction have led to declining sustainability. Selman and Knight (2006) have argued that a key purpose of landscape policy is to reinstate ‘virtuous circles’, where producers and service providers find it profitable to do things that reinforce landscape sustainability and the landscape, in turn, delivers human benefits through increased character and resilience. This does not automatically mean reproduction of inherited vernacular landscapes – although this might be highly desirable and feasible in certain localities – but, rather, that self-reinforcing links are embedded in ways that assist the conservation, re-creation and restoration of distinctiveness. In some cases, this might well entail the continuation of traditional farming practices and products; elsewhere it could be based on contemporary innovations, such as the production of localised food or biomass energy. When virtuous linkages are lost, landscape resilience declines but, when they are vibrant, serendipitous mechanisms occur that permit adaptive, multifunctional, regenerative landscapes to emerge.

It would appear, therefore, that if resilience theory is taken at a more metaphorical level, numerous comparisons can be drawn between social–ecological systems and cultural landscapes (Table 2.3). While the conceptual similarities may seem quite compelling, however, the practicality of interpreting actual landscapes through the lens of resilience analysis is relatively untested, and Stenseke *et al.* (2012) suggest ways in which the concepts may be explored and applied in real-world situations.

Table 2.3. Similarities between cultural landscapes and social–ecological systems

Cultural landscapes and social–ecological systems
<ul style="list-style-type: none"> <li>– are a combination of social (governmental, economic, human, built) and ecological (biotic, physical) subsystems;</li> <li>– include governance mechanisms that are not external to the system but are integral to its evolution through successive adaptive cycles;</li> <li>– are more resilient if they conserve ‘slow change’ variables, moving comparatively benignly through different adaptive cycles and continuing to furnish information about wise use across time and space;</li> <li>– evolve through adaptive cycles, often retaining many of their forms and functions, even though their associated production and consumption activities change;</li> <li>– have the potential to shift into alternative stable states over time in relatively unpredictable ways as a consequence of internal and external change drivers;</li> <li>– have a tendency to transform, if excessively exploited, into less desirable system states that may be highly resistant to change;</li> <li>– continuously intersect with multiple temporal and spatial scales – for example, upscaling and downscaling in relation to macroclimatic changes on local biodiversity processes, and cross-scaling between different regional, national and international demands for production and consumption;</li> <li>– engender virtuous couplings between social and ecological systems, thereby underpinning sustainable entrepreneurship, food security, psychological well-being and opportunities for social learning;</li> <li>– are influenced by variation across multiple spatial and temporal scales in relevant variables, both inside and outside the system of interest;</li> <li>– are defined by common internal elements, such as the spatial arrangement of system components and interactions, spatially relevant system properties such as size and boundaries, spatial variation in internal phases such as successional stage, and unique system properties related to location in space;</li> <li>– are influenced by common external elements such as spatial surroundings, connectivity, and associated spatial dynamics such as spatial subsidies and spatially driven feedbacks;</li> <li>– possess a degree of system resilience that depends on the number and nature of components and interactions, the ability of the system to undergo change while maintaining identity and memory, and the potential inherent in the system for adaptation and learning;</li> <li>– display emergent qualities as a result of processes occurring at discontinuities and thresholds associated with adaptive cycles operating at discrete scales.</li> </ul>

Source: mainly the author, but also drawing on ideas from Cumming (2011) and Garmestani *et al.* (2009).

Given the apparent lessons that can be drawn from social–ecological systems for contemporary landscapes, some initial issues of interest may be raised. For example, a landscape may be in a desirable state and may appear to be durable, and yet may be vulnerable to regime shift because of changes in the drivers that determine its condition and functionality. Although it may superficially be disclosing little change, its underlying subsystems may have become brittle so that the system can, with little advance warning, tip into an alternative and potentially undesirable state. Whereas little energy was required to tip it into this state, enormous effort is required to rebound to the preceding state. For example, Rescia *et al.* (Chapter 8) identify a pre-eminent concern that their landscapes are experiencing processes of depopulation and fragmentation that are undermining resilience and leading to an undesirable and irreversible situation.

Further, while it may be inappropriate to shore up economically and socially obsolescent landscapes just to satisfy our nostalgia, there may, on occasion, be sound reasons for their retention and reinvention. This is especially the case where a vernacular landscape possesses resilient attributes, such as ecological connectivity and

information complexity. Such landscapes will need to draw upon social memory to reproduce their continuing distinctive condition. Thus, Found and Berbés-Blázquez (2012) report on a cultural landscape that appears to maintain important features through successive adaptive cycles, despite changing technologies and uses. This is typically the consequence of new consumption activities displacing some production activities while capitalising on the landscape remanence of former production modalities.

An additional concern is that, while there are some interesting examples of valuable cultural landscapes adaptively cycling through alternative stable states, there is much less evidence of new, emergent and unexpected landscapes evolving spontaneously as a result of contemporary change drivers. Some writers have pointed to important new landscape categories such as the ‘middle landscape’, ‘edge city’ and ‘productivist agriculture’ (Herrington, 2006) but, while these may possess some interesting post-modern or late-modern aesthetic merits, they do not generally deliver a sufficient diversity and quality of ecosystem services. However, applying resilience principles to landscape may help us to explore new alternative system states that are unashamedly modern but still demonstrably rich and robust in terms of their social–ecological potential.

### **The pursuit of ‘good’ landscape resilience**

It may seem that pursuing resilience in cultural landscapes is a self-evidently desirable social goal. However, in practice, it creates significant conceptual and ethical problems. As Kirchhoff *et al.* (2012) note, the seemingly neutral scientific terms used in resilience theory are far from value free. Fundamentally, increasing resilience entails reducing the risk of tipping into an undesirable basin of attraction. This raises the question of what constitutes a desirable or undesirable basin. As Walker *et al.* (2002) note, resilience is not of itself always desirable; system configurations that decrease social welfare, such as polluted water supplies or dictatorships, may be highly stable, while some undesired ecological configurations may indeed be both resistant and resilient. Cumming (2011) has similarly shown how various spatial expressions of apartheid have proved resilient in Southern African landscapes. We are, therefore, involved in value judgements about what constitutes ‘good’ goals for landscape policy; we are also aware that some

previous landscape policies, which seemed impeccable at the time, now appear to favour élitist values and vested interests.

Thus, resilience per se is not of itself always an appropriate pursuit for landscape policy, nor are traditional cultural landscapes necessarily viable models for the future. A key consideration for landscape governance is to assess the desirability of retaining or pursuing a particular stability domain, something that should not rely solely on current expert opinion. It is, therefore, necessary to seek principles on which socially defensible choices can be made about future pathways. No age has a monopoly of wisdom and choices about the future will always be flawed, but we can seek to ensure that they reflect broadly consensual and socially endorsed principles. Two possible, complementary ways forward are proposed here: basing options on principles of sustainable development, and ensuring that policies and decisions are informed by deliberative and democratic processes.

While sustainable development is a contested term both in theory and practice, nevertheless, it has been extensively subjected to democratic discourse and is widely endorsed as a shared social goal. It is suggested here that a past, present or future social–ecological system can be deemed desirable, wise or principled if it meets sustainability criteria relating to environment, community, economy and justice. Because landscape is the spatial and neighbourhood expression of ecosystem services, then a sustainable landscape is one with a capacity to retain multifunctionality and continue to deliver ecosystem services in the face of internal and external drivers of change. It has been proposed that there are five dimensions to sustainable landscapes (Selman, 2008): environmental sustainability, concerning defragmentation and regeneration of land and water systems; economic sustainability, where ‘virtuous circles’ of endogenous, spontaneous economic activities are mutually coupled to sustainable landscape services; social sustainability derived from legible, ‘peopled’ landscapes with narratives, customary laws and social learning (Olwig, 2008); political sustainability based on governance partnerships that engage both insiders and outsiders; and aesthetic sustainability where ‘fitness’ of appearance between the human and the natural indicates healthy functioning of underlying systems (Carlson, 2007). Our ability to sense when a landscape is sustainable may relate to its remanence (Le Du<sup>^</sup>-Blayo, 2011) – the retention of visible, subconsciously sensed, and unseen traces and memories – and this also typically reinforces its legibility (Czerniak, 2007).

The second main way of pursuing ‘good’ resilience is through democratic discourse. Democratisation of landscape policy is pivotal to the ELC, and this spirit is likely to be absorbed into UNESCO’s prospective World Landscape Convention. A hugely significant requirement of the ELC, although one which is as yet scarcely underway, is the production of landscape quality objectives. It is already clear that these objectives will refer to both ‘special’ and ‘everyday’ landscapes, as well as their communities and other stakeholders. Landscape quality objectives recognise that there is no simple right or wrong future for a particular landscape, only the possibility of gauging progress in relation to explicit and measurable states (Council of Europe, 2006). Setting objectives requires expert input and stakeholder involvement (Ramos, 2010) as well as systematic baseline evidence. Planning authorities and land management agencies are now starting to tailor objective-based policies to particular landscapes, an approach which is well evidenced; for example, in Natural England’s development of ‘integrated statements of environmental opportunity’ for individual National Character Areas (Natural England, 2011b). More generally, social resilience tends to increase as a society becomes more adaptive, particularly through its ability to learn about and act on new ways of becoming more sustainable.

Participatory planning and management within landscape settings provides important opportunities for social and institutional learning relating to the generation of new knowledge, acquisition of technical and social skills, development of trust and relationships, common understanding of systems, and collective action (Muro & Jeffrey, 2008; Selman *et al.*, 2010). Similarly, Walker *et al.* (2002) propose a stepwise approach to managing resilience by involving stakeholders in a participatory process of issue mapping, visioning, iterative modelling and evaluation.

## **Conclusions**

Landscapes are territories where human and environmental processes find their integration. While landscapes are sites of stored information and slowly changing variables, they are also loci of continual transformation. As the spatial expression of cultural and natural ecosystem services, landscape provides an arena for social learning and transdisciplinary action.

Landscape governance has, for many decades, been dominated by rural protectionist agendas. However, this perspective has matured into one that promotes environmentally

sensitive land management, exemplary sustainable development practices and widespread stakeholder involvement in framing objectives. If this is to continue to evolve into promotion of spatial resilience, scientists and policy makers need to understand more about the appropriate rates and intensities of change, and of the functions and potential tipping points of landscapes. This requires action in respect of both space and place – providing space in which reconnection and regeneration of natural systems can occur, and promoting spatial properties that anchor, enrich and inform people. Steering the direction of landscape change will be unpopular and contested at times, and therefore interventions will need to be moderated by deliberative approaches combined with the principled pursuit of sustainability.

Landscape thus provides a strategic scale at which we can understand and embed resilience and synergy. Oteros-Rozas *et al.* (2012) provide a detailed insight into the qualities that traditional, ‘on-the-edge’ communities can bring to bear upon retaining properties of virtuosity and self-organisation in landscapes, through their acquired capacity to live with change and uncertainty and their collective memory. They note particular devices that are effective in mimicking traditional wisdom more widely, such as strengthening the diversity of income sources, favouring participatory processes, and developing new institutional frameworks for adaptive governance.

A critical understanding of resilience guards us against knee-jerk reactions to landscape change. Especially, it warns us that local is not always desirable and global is not always undesirable. New landscapes, with great potential for distinctiveness and resilience, can be driven by contemporary trends such as green infrastructure, urban food production, rural agroecosystems, floodplain management, and renewable energy production. Partnership-based governance might prove just as serendipitous as traditional modes of resource management in enabling distinctive landscape to emerge through fortunate accident. In supporting this approach to landscape scholarship and stewardship, resilience theory provides us with powerful metaphors; in time, it may also supply us with more formal predictive capabilities.

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## **CHAPTER 4: THE CONTRIBUTION OF THE RESEARCH**

### **4.1 Overview**

As noted throughout, the candidate's research has related broadly to a multi-faceted and dynamic view of landscape and the consequences of this for spatial planning. The selected outputs also affirm landscape as something which is an integrative framework rather than an amenity backdrop, and a system whose drivers of change are to be acknowledged and embraced rather than feared and opposed.

The selected publications start with an overview of the candidate's interpretation of how landscape planning has evolved from a specialised 'sector' to an integrative framework for sustainable development and smart growth. This overview suggests that landscape planning has latterly become associated with assessments of character and visual impact, and argues that, whilst these have resulted in proficient toolkits, they have not necessarily provided a strong conceptual foundation. It also traces how landscape planning has evolved from being a sectoral practice concerned with natural beauty and amenity to an integrative approach centred on the recovery of placeness and resilience.

Following on from this overview, the outputs show how the candidate has built on ideas about the visual and non-visual nature of landscape, balancing ideas of aesthetics with those of social-ecological dynamics. Outputs 2 and 3 ponder the planning concepts of 'amenity' and 'natural beauty'. Whilst these remain mainstays of theory and practice, the candidate explores how modern landscape planning is concerned with more than the 'aesthetic'; it engages with a continually re-evaluated concern for 'the view', as well as aspects that lie 'beyond the view'. Thus, 'scientific' influences in the 1960s and 1970s sought a more defensible basis for determining relative beauty, whilst also ensuring that landscape could take its place alongside more 'objective' topics via methods such as environmental impact assessment. This more scientific understanding of landscape grew in importance during a period of deindustrialisation and land regeneration, as well as in response to new digital methods of gazing at and interpreting landscapes. At the same time, landscape planning techniques also began to absorb the more cultural and qualitative turns in scholarship.

The candidate has suggested that the theory and practice of landscape planning in the 20<sup>th</sup> century was dominated by the desire to protect areas on the basis of scenic quality

evaluations and/or carefully applied designation criteria (Selman, 2009b). However, especially in areas such as national parks, designation was increasingly accompanied by active management, both to minimise the adverse impacts of leisure and recreation and to capitalise on the social and economic opportunities associated with distinctive 'place'. Whilst these activities were necessary and often widely acclaimed, the topic of landscape remained essentially sectoral, and was insufficiently joined-up with the management of other systems such as water catchments and biodiversity. Also, it was often retrospective, paying little attention to the assisted emergence of significant new cultural landscapes that might be cherished by future generations.

Significantly, in terms of the candidate's broader contribution to the subject, this thesis traces how the sectoral, rural and elitist nature of landscape planning gave way to a more cross-disciplinary appreciation of the environmental and cultural significance of all landscapes. Key changes have arisen from the adoption of concepts associated with multifunctionality, sustainability, integration and scale. Here, new approaches to spatial planning are emerging which see landscapes as frameworks for wider social and environmental processes, possibly even as social-ecological-epistemic systems which influence wider community resilience.

Further, the candidate, taking a somewhat dissenting stance from mainstream UK opinion, has supported the European Landscape Convention's interpretation of landscape planning as 'strong forward-looking action', and proposes this as a basis for strategies of physical and cultural re-connection. The candidate suggests that the current leading edge of landscape planning involves the maturation of a methodological 'toolkit', the pursuit of integrative strategies for resilience and regeneration, and the embedding of landscape in smart strategies for sustainable development and quality of life. At the same time, the candidate argues that new approaches do not invalidate the old, but that extensions of long-standing cherished ideas surrounding aesthetics and ethics remain integral to emergent practices.

## **4.2 Planning theory for large-scale interventions**

In broad terms, the candidate's contribution has been to develop a perspective on landscape which is about both the 'view' and the processes underlying the view. Thus,

aesthetics and perceptions remain pivotal, but are only the litmus of a complex system and its underlying state.

The first two outputs in the ‘theory’ section affirm how the aesthetic principle continues to contribute directly to the notion of sustainability as applied to landscape. They draw upon philosophical, scientific and policy arguments about the beauty of landscape, and about ‘services’ which humans might obtain from aesthetic outdoor surroundings. The papers show how traditional (and, some would argue, outmoded) policy concepts can be re-invented in ways that retain legitimacy and relevance.

It could be argued that landscape planning theory starts with aesthetics, not least because understanding ‘the view’ is an essential starting point for appreciating what lies ‘beyond the view’. This requires us to move beyond assessments of visual scenery, in order to appreciate the information properties of landscape that appeal to changing social conceptions of beauty, and also to infer how meanings about a landscape’s functionality are conveyed through its appearance. Thus, the papers suggest that historically fashionable landscape values – such as fitness, variety, uniformity, simplicity and intricacy – may be re-encountered in modern arguments about multisensory engagement with and cognitive understanding of landscapes, and their occupancy by humans.

In exploring this issue, the candidate has aroused a great deal of (positive) interest by addressing a central problem of landscape planning: namely, if interventions to promote sustainability conflict with landscape preferences, are we faced with an irreconcilable dilemma? This has most acutely been experienced in relation to wind power, although the arguments are likely to be extended to other interventions aimed at social-ecological resilience. Here, the candidate proposed two main arguments. First, all cultural landscapes are, in a sense, ‘energy landscapes’, insofar as they will embody and reflect social practices of movement, habitation and production. Within this context, the industrial practices associated with energy supply can only be understood as part of a wider social transformation of landscape to accord with prevailing lifestyles and technologies. Second, aesthetics are dynamic. They are malleable according to social taste (Burton, 2012). Individuals and communities can begin to see beauty in new things that gain social approbation. Humans appear to prefer cultural landscapes which can be read as familiar and coherent texts, conveying a narrative. Although new cultural

landscapes may be contested, especially where change is rapid and unfamiliar, there is a possibility that we may ‘learn to love them’, because we are able to read in them a story of ingenuity, adaptation and wisdom that is intrinsically worthy of pride.

This section also considers ‘the view’ in terms of the historic patterns which, however faint, confer the quality of remanence on landscape. Thus, landscape legibility invokes aspects that are not immediately perceived, but which derive from the deposited knowledge associated with cultural imprints. Here, the paper by Dobson and Selman (2012 [Output 4]) confronts another key challenge: namely, that, whilst historic information is most easily comprehended and governed via specific sites, the actual imprint of landscape history is ubiquitous. The paper therefore explored, in dialogue with planners and landscape managers, a way of extrapolating landscape from the monument, photographic scene or historic account, to a wider experience of time-depth. It thus extended the task of landscape planning from one of edifying specific ‘remains’, to one of promoting the wider ‘remanence’ of cultural signatures. In line with the general thrust of this thesis, its findings showed how continuity of landscape qualities could be enhanced even within a context of change.

The final paper in this section (Output 5) shifts the attention from pattern to process, whilst recognising that the two are inseparable. Although a relatively early paper, it both highlights the candidate’s concern to base landscape stewardship on the embedding of virtuous circles rather than an over-reliance on subsidies, and anticipates later interests in resilience theory. The candidate’s promotion of landscape as an ‘integrating framework’ was influential on conservation policy (e.g. Natural England, 2011) and it contributed to our understanding of how landscapes may be understood and governed in terms of their underlying dynamics. The paper popularised the idea of landscape scale – whilst acknowledging that it was also a problematic term – as a way of planning for coherent units of land in ways that enhanced their innate and distinctive qualities (Hamilton and Selman, 2005). Whilst it acknowledged that landscape units are ‘leaky’, it also argued that they can display a degree of unity, identity and self-containment which facilitates modelling, character-based planning, multi-functional management and stakeholder engagement.

Working from this premise, the paper proposed that, in view of ubiquitous drivers of change (Primdahl and Swaffield, 2010; Winn *et al*, 2011), planning strategies should

focus on ‘regenerative’ processes (Melby and Cathcart, 2002) in both traditional and recovering landscapes. The paper therefore drew upon a well-established principle of sustainable development, namely, that virtuous circles can be embedded as an antidote to vicious circles of deterioration and decline. The paper particularly contributed to our understanding of how landscape regeneration might occur through the targeted promotion of virtuosity between people, place and economic activity. In other words, landscape might contribute to valorized outputs, which in turn would incentivise agents to re-invest in distinctive landscape qualities. This was then illustrated in terms of the self-regulating feedbacks, internal mechanisms and external impacts that might arise at the landscape scale. As noted previously, an extension to this paper by Matthews and Selman (2006) formed a bridge to subsequent investigations into the apparent similarities between cultural landscapes and resilient social-ecological systems.

#### **4.3 Planning practice for implementing large-scale interventions**

The set of papers relating to landscape planning practice centred on the candidate’s concern for effective landscape governance in a context of patchy implementation powers. It is widely accepted that: much of landscape planning takes place outside the statutory planning system; there is an inherent need for agencies with complementary powers to work in partnership (even if their objectives and philosophies are not always harmonised); there is a need for inventiveness and flexibility; and there is a need for strategies to be resolved through a democratic process (Selman, 2002). In broad terms, the candidate has approached this challenge by drawing upon Healey *et al’s* (2002), model which sees plan implementation in terms of a knowledge base, relational base and mobilisation capacity. In the current context, we may presume that:

- the knowledge base comprises – surveys of landscape assets and services, uncodified knowledge of local individuals and groups, codified scientific and social scientific ideas and evidence, and spatial data informatics;
- the relational base comprises – governmental and non-governmental organisations, social and economic entrepreneurs who have an interest in valorising landscape functions, social and institutional learning structures, and technologies for networking between stakeholders; and

- the mobilisation capacity comprises – spatial planning devices, environmentally sensitive agricultural policy support mechanisms, competitive funds for landscape projects, and individual investments of time and money.

The first output in this suite (Watts and Selman, 2004 [Output 6]) therefore investigated the implementation prospects for one of the first types of ‘landscape scale’ plans. Here, delivery relied on joining-up the actions of numerous individuals and agencies to achieve a concerted programme for ecosystem service recovery. It was one of the few pieces of research to take Trudgill’s (1990) influential ‘barriers’ approach and apply it to a real-world landscape issue – how landscape-scale goals were enabled or disabled by a suite of economic, knowledge, agreement, political, social and technological factors. Being concerned with landscape-scale delivery, it addressed the core problem of how planning considers the wider forces operating beyond site level. The study found that most implementation devices were focused on large, high-quality sites and a small number of key species, at the expense of less charismatic habitats and species which often have important linking and buffering roles. Although partnership approaches are essential to landscape-scale delivery, the findings suggested that BAP partnerships encountered a frequent lack of agreement and consensus over a range of issues.

It is generally acknowledged that landscape-scale plans need to be partnership-based. However, many of the players tend to be expert scientific groups, often with a specific statutory purpose or charitable aim. In such a situation, there is a risk that proposals may – despite being couched in inclusive language and including participatory elements – be expert-driven and suffer from democratic deficit. An important strand of the candidate’s more recent work has therefore been the importance of ‘democratising’ landscape-scale actions. The candidate has argued that, not only is it democratically desirable to improve public engagement, but also the active engagement of diverse publics is essential if landscapes are to be cherished and maintained in the long-term. Thus, landscapes need to possess rich meanings for various communities-of-place and communities-of-interest if they are to be imbued with a sense of belonging. Equally, the candidate has expressed the importance of landscapes being actively used by people, rather than merely being enjoyed passively, if they are to become part of the warp and weft of daily living in a way that instils virtuous circles.



Hence, a subsequent paper (Output 7) explored the engagement of a heterogeneous group of people who had a residential or professional attachment to a postindustrial area of South Yorkshire. The project area focused on the River Dearne, which was a recovering river in a regeneration zone. The particular significance of this paper arose from the fact that it introduced the epistemic role of landscape engagement. As a relatively small-scale project, it was only able to explore some of the possibilities of landscape as an arena for social, institutional and transformative learning. However, it subsequently led to a follow-up project which re-affirmed the potential for capitalising on 'creative' local adult education classes (on this occasion, a community art group) as a vehicle for co-investigation. It showed some of the ways in which a deeper and shared understanding of past landscape dynamics could inform and help achieve the fuller potential of restoration programmes.

The paper broke new ground by using a participatory approach known as imaginative engagement to conduct dialogues about landscape choices. It selected a river catchment as an example of a high order system, about which lay people may lack interest or comprehension. Stakeholders may need considerable help to imagine what a future river system would look like, as the modern watercourse is often a residual vestige of a forgotten landscape. Stakeholders may also have experienced severe floods and thus be predisposed towards conventional and familiar methods of flood control. Thus, the research was concerned with enabling participants to consider large-scale processes and take long-term perspectives on alternative approaches to floodplain management, whilst imagining how their river might once again be valued, cared for, and used rather than forgotten or disparaged. The method drew upon the creative arts to communicate and help people engage with complex and sometimes abstract issues, by providing icons and metaphors, and by giving space to the imagination and emotions.

The next paper, Output 8, centred on the active engagement of communities in managing and conserving existing landscapes. It again reflected the candidate's concern for implementation, in a situation where action on the ground cannot be mandated by a single agency. It also reflects the difficulty of achieving consensual action where change drivers are leading to obsolescence in desirable landscape characteristics, and their replacement by relatively 'place-less' features. Hence, the paper reaffirmed that cultural landscapes, whilst often deserving formal intervention by public bodies, cannot be sustained by external mandate alone. This is because landscapes have been created by

the effects of local people working within particular technological and environmental constraints, resulting in an intimate interaction which cannot be replicated or sustained solely by government intervention. Also, active state intervention is costly and can only be applied to a small sample of the totality of 'cultural' landscapes. The paper showed how some management took the form of daily economic activities whilst other examples were more voluntaristic in nature. It drew distinctions between the role of individual stakeholders and stakeholder groups, communities-of-interest and communities-of-place, and disambiguated the ways that groups might help to safeguard local or more general landscape features. It re-emphasised one of the candidate's recurrent themes – that implementation of programmes outside the core territory of statutory planning powers requires the 'smart' combination of knowledge, relational and mobilisation resources.

The final paper in this section (Output 9) continues themes of implementation and democratisation in the context of the European Landscape Convention (ELC). This paper was amongst the first to critically consider the contribution of the ELC to landscape planning, at a juncture when it had only recently entered into force in the UK. It drew both upon contract research, and on several years of critical reflection based upon organising and presenting at conferences; it also took the opportunity to comment on various other commissioned research projects relating to the ELC.

The paper articulates a theme with which the candidate had become particularly associated: namely, that the ELC is likely to make UK policy-makers and practitioners reappraise their traditional understandings of protection, management and planning, potentially invoking a more integrated view of landscape and supporting a stronger element of futuricity. By examining a range of policy statements and research documents, the paper detected shifts in the official landscape discourse, new departures in secondary legislation, the engagement of stakeholders and the wider public in debating future landscape, the significance of ordinary and urbanic landscapes, and the positive acceptance of landscape change at various rates and scales. Thus, whereas many policy makers considered that signing the Convention would be tokenistic, the candidate proposed, to the contrary, that adoption could have subtle yet far-reaching effects. On the one hand, the ELC promotes a modern view of landscape as a system rich in landscape services that are desirable for people's enjoyment and essential to human wellbeing. On the other, it democratises landscape by emphasising the role of

civil society, often in unsettling ways. By re-balancing our actions away from an excessive concern for scenic heritage protection towards creative and regenerative approaches, the ELC may stimulate the emergence of important new cultural landscapes.

#### **4.4 Future Trajectory**

The selected publications conclude with a chapter (Output 10) that synthesises the candidate's views of landscape as an integrative medium through which measures for social-ecological resilience can be delivered. This publication also serves as a pointer to future research into resilient, emergent landscapes and their implementation through large-scale partnership programmes. It is also alert to the risk of democratic deficit associated with scientifically sophisticated terminology, and the presentation of resilience as a seemingly self-evident good.

The candidate contributes further to our understanding of the dynamic nature of cultural landscape, and how it is continually subject to drivers of change. Whereas landscape planning discourses have often emphasised the retention of 'recent past' conditions, the candidate emphasises newer arguments which relate to social contest, physical flux, and spatiotemporal trajectory. Further, the candidate proposes that, whilst landscape policy has achieved many important outcomes, it may sometimes be inefficient and behind-the-curve, because it is not part of the 'warp and weft' of serendipitous landscape production. Nor can planners depend on the artificial maintenance of inherited landscapes that were produced by now-obsolescent farming practices and labour patterns.

Here, the candidate re-visits the principal precedents for modern landscape planning, before considering alternative approaches, based on temporally dynamic social-ecological systems which display multifunctionality, social-ecological connectivities and integrated, adaptive governance. The chapter re-visits the theme of embedding virtuous circles in landscapes, and suggests that such an approach can help to distinguish between situations where the retention of traditional land management practices would best contribute to stability, or where creation of new landscapes might deliver greater long-term benefit.

Towards the end of the publication, the candidate re-emphasises the risk that resilience theory might simply produce ‘expert’ solutions supported by opaque arguments, and hence counsels that any such approach needs to be ‘democratised’ not only through enabling various publics to participate at the design stage, but also by promoting the opportunities for shared learning that are afforded by a maturing landscape. In this way, new ‘peopled landscapes’ might emerge that continue to be cared for via a deepening attachment. It also anticipates very recent arguments about the extension of SESs into social-ecological-epistemic systems (SEESs) (McCarthy *et al*, 2011), which consciously capitalise on the potential of landscapes as familiar and vivid settings where social and transformative styles of learning transpire.

However, this publication is not the end-point of the candidate’s contribution. It feeds into a continuing agenda that is concerned with the causes of declining sustainability in landscapes, particularly the apparent impact of progressive spatial and social disconnection. Various trends have been ascribed to this process, notably, loss of character, over-exploitation of land and nature, urban flooding, diminishing biodiversity, antisocial behaviour, reduced sense of personal agency, unsustainable modes of energy use and transport, and declining health, fitness and wellbeing.

The ‘trajectory’ of the candidate’s work at this juncture, therefore, may be summarised as a focus on the ways that landscape sustainability and resilience may be being compromised by progressive disconnection, disruption and brittleness. In this regard, the candidate (Selman, 2012a) has signalled that:

- physical landscape systems – such as ecosystems, rivers and microclimates – have been subjected to human pressures, leading to fragmentation, damage and disconnection;
- people are increasingly disconnected from the places in which they dwell, because they may work elsewhere, engage in ‘virtual’ worlds, be drawn into global cultures, and rely on ‘untraceable’ goods;
- many landscapes have become less multi-functional than they used to be, and more mono-functional, possibly leading to a decline in resilience and visual interest;

- many natural scientists are concerned about the ways in which connections within and between environmental systems have been disrupted; and
- some social scientists are concerned about the disruption of cultural and psychological factors that connect people to locality.

More positively, and underscoring the case for a style of landscape planning which blends historicity with futuricity, it seems likely that:

- people often appear to attach values to landscapes, and these values connect them to particular places and natural phenomena;
- there is a diverse body of evidence from a range of disciplines that reveals the environmental, health and cultural benefits of restoring certain landscape connectivities;
- restoring connectivities will require large-scale action related to the innate dynamics of particular landscapes;
- certain natural functions will only reconnect if they are given sufficient space, whilst certain social functions may only reconnect if they are given distinctive place;
- if critical connectivities can be reinstated, the landscape may become more multifunctional – individual functions will be more readily sustained and they will interact synergistically in ways that make the whole more than the sum of the parts;
- landscapes that recover connections in this way may well prove to be more sustainable and resilient;
- if people have closer connections with the landscape itself, they may make wiser choices that lead to a more resilient future;
- governance mechanisms should recognise the value of and opportunities for reinstating landscape connectivity (Selman, 2012a).

The trajectory of the thesis can therefore be related to emergent practices concerned with regenerating landscape qualities in terms of sense of place, sustainable drainage, ecological networks, embedded economies, healthier lives, and adaptive communities.

## CHAPTER 5: CONCLUSIONS

The thesis has shown how the candidate's contribution has evolved from a broad concern with the role of spatial planning in sustainable development, and more specifically the wise stewardship of natural resources, to a particular focus on emergent landscape. This exploration of landscape has sought to balance the visual with the non-visual, pattern with process, social with environmental, rural with urban, and expert with public. At the same time, the candidate has shown how apparently timeless landscapes are being inexorably altered by change drivers, which are often trending towards social-ecological disconnection and brittleness. Hence, the candidate has promulgated an approach to landscape planning which promotes virtuous new connections, and seeks the emergence of new landscape qualities, through the pursuit of social-ecological resilience. It is also clear that such an approach requires the imaginative and adaptive use of diverse implementation mechanisms through transdisciplinary partnerships.

The selected outputs necessarily only represent a time-slice of the candidate's evolving interests. Even so, they encapsulate salient ingredients, namely: the conception of landscapes as multi-layered and dynamic systems rather than predominantly as scenic set-pieces; the case for large-scale interventions, of sufficient extent to influence broad social-ecological processes; the need to construct imaginative solutions to implementation rather than rely wholly on limited statutory powers; an acceptance that all landscapes are subject to change drivers, such that planning strategies will need to balance futuricity with historicity; and the pursuit of complex, multifunctional, emergent outcomes, which sustain character and resilience.

Overall, the candidate has noted how, broadly speaking, different conceptions of landscape locate themselves along a spectrum from a visual and painterly view at one end to a more inhabited concept at the other. However, even as a painterly artifice or as designed public realm, landscape comprises far more than the visual. In addition to its perceived properties, it is rich with stories, nutrient cycles, carbon fluxes, customary laws, economic activities and manifold other properties. The crises faced by many landscapes, and the potential of landscape to frame lives, livelihoods, scientific enquiry and public policy, cannot be understood within a narrowly visual conception. Thus, the

candidate's general argument is that an understanding of landscape must go 'beyond the view', based on a multi-functional spectrum of interconnected relationships, practices and processes. The landscape we see is merely the surface manifestation of consolidated deposits of materials, practices and memories, and a dynamic regime of natural and societal systems. Effective landscape planning is underpinned by this complex, malleable and inhabited view of landscape.

As noted earlier, the candidate's more recent work has revolved around the notion of landscape as a multilayered and inter-connected medium through which social-ecological resilience may be pursued (Selman, 2006, 2012a). In so doing, planners will often discover that the scales at which landscape issues need to be addressed will not coincide with administrative areas. This will therefore require a strategic approach to the flexible implementation of adaptive measures across multiple scales. Stemming from this, a number of key leitmotifs emerge from the publications included in this thesis.

One has concerned the loss of distinctiveness and character, whereby non-local change drivers lead to landscape simplification and declines in functionality and 'placeness'. In this regard, the candidate has proposed that the richness of landscape can be detected, often visually, through its remanence. The notion of a 'palimpsest' landscape, in which persistent traces of the past are successively overlaid to create unique platial qualities, has long been established. Applying the more recent concept of remanence enables history and heritage to integrate more effectively with themes related to health, biodiversity, community culture and climate change. Ensuring the continued remanence of platial qualities requires strategies which maintain our ability to read landscape as a whole, if we are to maintain a broader richness and depth of landscape character for future generations to appreciate.

A second theme has been the role of landscape planning in re-instating 'virtuous circles' between natural, cultural, social and economic capitals. This does not automatically mean reproducing inherited vernacular landscapes, despite their desirability in certain localities, but instead promoting self-reinforcing links between processes driving conservation, re-creation and restoration. In some cases, this might well entail the continuation of traditional farming practices and products; elsewhere it could be based on contemporary innovations, such as those associated with renewable energy.



A third vein has been the candidate's engagement with arguments concerning the possible attribution of certain social-ecological problems to a growing disconnection between humankind and nature. McHarg was amongst the first to argue that our reductionist tradition has led to us gaze exploitatively on the environment, rather than to see ourselves as an inextricable and non-dominant part of "nature". Latterly, therefore, the candidate has investigated various types of re-connection that may be pursued through the medium of landscape.

Some of the connections are predominantly human and social. Loss of connection to nature, both in childhood and adulthood, can reduce quality of life and may contribute to psychological distress. It may also adversely affect the persistence of social capital and, in turn, diminish our shared capacity to respond to environmental crises. It may reduce the basis for sustainable economic growth and the coherence of sustainable transport networks.

Some of the connections are principally within and between natural systems. Hydrological systems have been disrupted through the impact of urbanisation and its associated 'hard engineering' measures. Certain changes in rural land use are also interrupting the dynamics of systems that were previously capable of self-regulation. Atmospheric circulation is changing because of the disruption of air-paths and microclimatic zones within cities, and because of inadequate attention to the nature and structure of vegetation. Ecological resources are widely deteriorating due to loss of network properties. All of these diminish the capacity of "nature" to deliver ecosystem services and to recover from disturbance.

A final strand has been the candidate's evolving interest in ways that multifunctional landscapes appear to be associated with resilience. The social-ecological system (SES) concept is particularly useful in relation to ecosystem dynamics, where natural and human influences can cause ecosystems to 'tip' into a different state. 'Tipping points' can result in SESs shifting to a less desirable state in human and ecological terms, and decision-makers may therefore seek to render the system more resilient and adaptive, 'making space' for processes that will reduce the likelihood of a catastrophic shift. Of course, entirely natural processes can tip systems into apparently disastrous states although, over time, evolutionary processes will often lead to creative recovery. The candidate's concern has been, rather, for the role of non-benign human pressures in

landscapes. General wisdom suggests that this requires two main changes in approach: first, that planners and managers move away from an undue reliance on control and instead try to facilitate conditions in which systems are able to adapt to gradual change as well as intermittent shocks; second, that land users and conservation managers are themselves treated as integral parts of the system rather than as external controllers of it.

In this regard, the candidate has drawn upon ideas suggesting that self-organisation occurs over the evolution of a landscape, and that it appears to occur simultaneously and spontaneously across different orders of magnitude, which may be thought of as 'landscape scales'. Whilst there is no single landscape scale, there appears to be a panarchy of interactions across multiple scales. This may help to explain why many of the most desired qualities of cultural landscapes, such as distinctive character and multifunctionality, are 'emergent'. Consequently, the candidate has proposed that society-nature needs sufficient space, place and time for processes to operate in sustainable and resilient ways which sustain a requisite diversity of ecosystem services in multifunctional landscapes.

The thesis has also noted the candidate's concern for implementation, particularly the capacity for spatial planning to support the provision of a range of landscape services, despite having limited statutory powers. The lack of regulatory authority is further compounded by the changing purpose of landscape planning which requires an anticipatory approach based on responsiveness rather than a reactive reliance on control. This is occurring because of a re-balancing from a predominant concern for protection and conservation, to an equal emphasis on emergent, participatory, contemporary sustainable landscapes. Thus, the thesis reflects the candidate's contribution to a shift from a predominantly protectionist, scenically-driven style of landscape planning to one in which fine countryside becomes important for its exemplification of sustainable development and wherein poorer landscapes are given space to evolve into valued new states.

The candidate has fully acknowledged that 'historicity' in landscape planning – the active protection of beautiful rural landscapes – is a laudable activity. However, there is a parallel requirement for the pursuit of 'futuricity'. This evolution has reflected itself in various ways during the late 20<sup>th</sup> century: from 'safeguard and science', through 'people and place', to 're-connection and regeneration' (Selman, 2010a). Although landscape's

role is central to the nature and quality of place, its full assimilation has been slow, principally because of the difficulty of defining and mapping landscape character, and developing knowledge about how this can be retained, recaptured and enhanced, without resorting to pastiche.

This maturation of purpose continues to evolve. In particular, the candidate has contributed to an endorsement of the European Landscape Convention's definition of landscape planning as 'strong forward looking action'. In this context, landscape, far from being a peripheral concern of spatial planning, now lies at the heart of many of its most important contemporary themes – sustainability, quality of life, place-making, economic investment and healthy lifestyles. The character, distinctiveness and resilience of landscape provide foci for securing multiple goals through integrated, place-centred planning.

New styles of spatial governance focus on achieving ecosystem service integration within spaces, places and networks. This perspective was originally the purview of landscape ecologists, resulting in a predominantly biological bias. Landscapes, however, can serve as frameworks for scientific analysis, data capture, policy delivery, and social and economic entrepreneurship. Hence, there is now a shift towards a more inhabited view of landscape, incorporating fields of interest such as water catchment planning, area-based delivery of nature conservation, distinctive rural development, and green infrastructure.

This perceived diversification of the landscape agenda in recent decades – from a sectoral, visual and static entity to an integrative, functional and dynamic one – has been critically explored in the context of the European Landscape Convention. The modern policy framework now sees landscape not simply as a policy sector, to be factored in alongside other rural issues, but as a multifunctional system, integrating and connecting a panoply of ecosystem services. Further, there is a growing realisation that landscape is everywhere and matters to all people, often in subliminal ways.

The candidate has observed that mainstream production drivers now rarely seem to be leading to spontaneous and serendipitous new landscapes that are in-dwelt, diverse, multifunctional and legible. Faced with this dilemma, there is no simple policy response, because the societies and economies that produced our favourite landscapes are obsolescent; former land use practices have been replaced by very different market

forces, technological devices, public policies and popular cultures. Inexorable pressures associated with globalising forces are making cultural landscapes more ‘international’ in appearance and function, eroding the facets that made them distinctive and intimate. This creates a fundamental paradox at the heart of landscape planning. The cultural landscapes, with their connectivities and functionalities, which we typically most wish to retain, are those that were produced by obsolete economies and technologies, especially farming practices that are declining because of their capital and labour inefficiency. Hence, the candidate’s contribution is perhaps most simply expressed as promoting an approach to landscape planning which looks towards the future, being prepared to accept landscape changes that some would deem heretical, rather than fixating on the continuance of historic practices and patterns.

The candidate has consistently re-visited the idea that landscape is the milieu wherein human and multifunctional natural systems are integrated, and where vivid social and institutional learning can transpire. In their natural state, landscape systems tend to be inherently regenerative when viewed over sufficiently long timescales. However, in social-ecological systems, especially where human use has lacked wisdom and sensitivity, processes can quickly become degenerative and brittle. It might be argued that excessively simplified social-ecological systems are characterised by the dominant human exploitation of a narrow range of functions, reducing the overall level of landscape/ ecosystem services. In such simplified systems, inter-connections are disrupted. This affects both the physical links between natural systems and the associative links between people and place.

The candidate’s approach has been to contend that landscape resilience is enhanced by multifunctionality, and that multifunctional landscapes can adapt to future shocks not least because they invoke ‘intelligent care’ from human communities (Iverson Nassauer, 1997; Gobster *et al*, 2007). Where landscapes become less resilient, they may lose some of their values, though this may not readily be apparent to society, mainly because loss tends to occur in services that have no immediate market price. Indeed, many monofunctional landscapes appear to have very high values because, with sufficient artificial subsidies of energy and materials, they continue to yield high outputs of desired goods and services (Willemen *et al*, 2010). However, exploitative use will tend to reduce even economic values in the long term.

Central to the candidate's perspective on landscape planning has been the tenet that nature needs 'space' and people need 'place' (Selman, 2012a). Most of the recent policy rhetoric about large-scale conservation has centred on the need to create space for nature. However, people also connect with landscape in a number of ways. It is claimed, for example, that various landscape qualities and properties lead to attachment to or identification with a place, and may promote social inclusion by creating venues for encounters and shared activities. Further, pleasant landscapes evidently contribute to people's health and wellbeing both as restorative settings for mental and spiritual replenishment and as places for more energetic exercise. Enrolling people in the intelligent care of landscape, whether as part of their livelihood or for reasons of fulfilment and enjoyment, can help foster awareness of environmental dynamics and sensitivities, and of our responsibilities towards nature. There is some evidence that the landscape provides an arena in which social learning can occur and institutional thickness can develop, via direct involvement in land-care and wider engagement in collaborative and participatory governance.

It has been the candidate's aspiration to encapsulate an approach to landscape planning that might be construed as 'Neo-McHargian'. McHarg was essentially forward looking. Whilst he showed reverence towards the past and to the continuity of systems that underpin human prosperity, he realised that change and development were desirable and inevitable. He recognised the persistence of 'nature' in metropolitan areas, its value to human wellbeing, and its continuing influence on the supply of water, food and timber. He also recognised that, if planning strategies were informed by an understanding of natural patterns and processes, growth could be accommodated without destruction and despoliation.

It is the aspiration of this thesis that the outputs might reflect a 'Neo-McHargian' approach. Such a perspective might embody the following axioms.

First, landscape planning is applicable to all landscapes, not just to ones that are designated for their special aesthetic merit. Clearly, this does not mean the application of heavy-handed state intervention and planning to every square kilometre of land. Rather, it means the application of an intelligent blend of control, grant aid, advice, support, guidance, partnership, management and care, based on sensitivity to local conditions.

Second, landscape planning must concern the future as much as the past. It is clear that strict preservation is rarely appropriate or possible in cultural landscapes which have co-evolved with human activity over many centuries. Planners require a capacity to perceive change as something which can potentially create distinctive new landscapes, rather than seeing ‘landscaping’ simply as a means of mitigating developmental impact. Even the most cherished traditional landscapes must therefore be stewarded in forward-looking ways, so that a learning society can appreciate their wider lessons about sustainability, and foster their delicate yet resilient balance between economy, culture and environment. Equally, some landscapes require extensive remediation in ways that respect local knowledge and environmental conditions, and balance a new identity with distinctive place legacies. Climate change is also becoming a driver to which positive response is essential, otherwise landscapes will deteriorate as they and their species experience stress from unfamiliar temperature and wetness regimes. Deliberating such futurescapes with existing stakeholders will prove a major challenge.

Third, landscape is urban as well as rural. Many countries have a long legacy of planning for urban amenities such as parks, yet little experience of managing them to their full potential as multifunctional resources. Also, there is limited recognition of the extent to which time-depth and legibility in the urban environment creates a sense of place, even within localities which the casual observer might dismiss as lacking interest or merit. Further, cities of the future must touch more lightly on the earth, a key element of which will be to deliver multiple ecosystem services via a blue–green infrastructure of interconnected corridors and spaces across the city. This needs to be at a scale that will demonstrably support the habitat and movement of a rich biodiversity, assist the improvement of local climates in a context of atmospheric warming, permit the operation of natural water cycles within acceptable levels of hazard, provide for significant levels of food and energy production, and appeal to residents as an extensive and interesting destination for exercise and recuperation.

Fourth, planners need to deepen an awareness of landscape being about more than just the ‘view’. The landscape we see is merely the surface expression of underlying ecology and culture, in which visible character and distinctiveness provide a litmus test for deep-seated sustainability. Provided our understanding goes beyond a superficial appreciation of prettiness, then landscape affords an integrative spatial frame for connecting sectoral

activities associated with sustainable development, conservation of time-depth and wildlife, and natural resource production.

Finally, landscape planners are becoming more adept at achieving their goals within a context of predominantly privately-owned land units, requiring adaptive, partnership-based governance. As previously noted, the candidate has always counselled caution about calls for stronger statutory controls over the countryside. There are more effective alternatives, based on locally sensitive blends of knowledge, networks and institutional capacity.

Hence, although knowledge and technology have greatly advanced since the publication of *Design with Nature*, so that many of its methods and assumptions have been superseded, McHarg's approach retains an enduring wisdom. The candidate's publications aspire to re-interpret this approach for contemporary spatial planning. McHarg made the case for fitting new linear and point development into landscape, rather than overriding it. He was concerned at humanity's domination over nature, especially the ravages of encroaching urbanisation; he saw the potential for new methods of valuation to recognise the worth of natural assets and to reveal the hidden costs of resource degradation. Although McHarg did not realise it at the time, he was effectively proposing approaches which were later to be described as sustainable development, ecosystem service enhancement and social-ecological resilience. The outputs in this thesis are offered in the same spirit. They point to a style of spatial planning concerned with the emergence of aesthetic, virtuous, resilient, connected landscapes: such an approach may, hopefully, be considered 'Neo-McHargian'.

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