
Article:
Selman, Paul (2009) Conservation designations - Are they fit for purpose in the 21st century? Land Use Policy, 26 (Supple). S142-S153. ISSN 0264-8377

https://doi.org/10.1016/j.landusepol.2009.08.005

This is a post-peer-review draft, prior to publisher formatting

Selman, P H (2009) Conservation designations—Are they fit for purpose in the 21st century? Land Use Policy, 26S, S142–S153.

doi:10.1016/j.landusepol.2009.08.005

Conservation Designations – are they fit for purpose in the 21st century?

Paul Selman, Department of Landscape, University of Sheffield

Abstract

The designation of tracts of land for nature and landscape conservation has been a mainstay of countryside policy. However, its continued relevance in the light of policy trends towards sectoral and spatial integration has been questioned. Focusing principally on experience in the United Kingdom, this review considers the impact and effectiveness of designations from a number of perspectives. It concludes that, whilst on balance they remain broadly fit for purpose and good value for money, they will increasingly need to be embedded in land-use strategies which are more responsive to changing social needs and environmental conditions.

1 Introduction

This paper considers past experience and future prospects of countryside designations as a means of protecting ecological and landscape assets in the face of land use change. Broadly, the designation approach relies on protecting 'special' tracts of countryside by identifying candidate areas, selecting them on the basis of criteria, designating boundaries based on legal-administrative instruments, notifying landowners and other stakeholder in the areas, and applying controls and incentives within the selected area. Although the recognition of sites with spiritual or symbolic significance stretches back millennia, the modern approach stems from the creation of national parks in the USA from the late 19th century. The current review is focused principally on the cultural landscapes of the United Kingdom, and on areas of importance for biodiversity and landscape, whilst acknowledging the wider international and policy context (Appendix 1). Despite their well-established position in the panoply of land use instruments, the continuing relevance of designations has been questioned. There is a suspicion that some may be relatively ineffectual or in the wrong places, or may need to be supplemented by complementary strategies in the wider countryside. Current evidence of

environmental (especially climate) change leads us particularly to question the location of designated areas which have been based on historic species' ranges or land cover, and to query whether isolated areas can adequately perform their roles if they are surrounded by ecologically or visually impoverished countryside.

The effect of designation is largely one of restricting adverse and promoting positive change within the designated boundary, and sometimes involves the creation of specialist planning or management agencies. The corollary is that the remaining area does not possess the defining properties in sufficient quantity and so is subject only to 'normal' safeguards and incentives. Usually there is an implication that active threats to the area's qualities exist, and that, without special protection, conditions there would deteriorate. The impact of designation ranges from 'token' to 'strict'. The stricter the controls over the designated area, the less likely it is to deteriorate from internal processes. However, external conditions may change to such a degree that the protected area is compromised, requiring alternative or complementary approaches. In many countries, including the UK, land has been so extensively altered that landscapes are essentially cultural rather than natural. Here the designated area requires active traditional management involving local stakeholders.

This study focuses on land futures, and thus does not include marine designations. Nor does it directly address protected species. In the space available, it cannot consider the many other agricultural, economic and planning designations. Where appropriate, it briefly considers them in the wider context of creating social, economic and environmental conditions conducive to landscape and biological diversity.

2 The Principles of Designation

Designation is a device within environmental planning and management which aims to focus limited financial and institutional resources on key sites and areas. As with other fields of public policy, these resources can be summarised as (Collins et al, 2003):

- Carrots – such as incentives to land owners and managers to create and manage nature conservation features, and grants to authorities to provide for public enjoyment;
- Sticks – regulatory devices such as stricter planning controls and zonations, operational restrictions on bio- and geo-diversity sites, enhanced impact assessment requirements, and penalties for damaging protected features;

- Sermons – promotional and consultative devices such as agricultural extension work, visitor interpretation, and environmental education.

These resources need to be applied selectively, as they are all costly to operate, and may place burdens on land managers or owners. They often require to be funded out of general taxation. In some cases, entire new management authorities require to be created to implement them, for example in national parks.

The active engagement of stakeholders and the wider public in the attainment of designated area purposes is increasingly seen as essential (Selman, 2004). This engagement depends, for example, on the degree to which strict protection measures based on specialist scientific knowledge weigh against the desirability of continuing traditional land management practices, the potential for social learning and environmental education, the scope for management by non-governmental organisations, and the inclusion of public enjoyment as a purpose of designation.

The conceptual counterpoint to designation is the idea that 'all landscapes matter' (Natural England, 2008a). This suggests that inclusive policies are required to ensure that biological diversity and landscape character extend across the entire countryside and, increasingly, into the urban 'green infrastructure'. A number of principles underlie this 'all landscapes' approach (SNH and Historic Scotland, 2004):

- 'both town and country' – landscapes do not stop at the edge of settlements, and nor do they change at administrative boundaries, so effort should be directed at all areas
- 'valuing landscapes' – even the most incidental landscapes will be valued by some people, and their importance needs to be respected alongside national assessments
- 'guiding landscape change' – the landscape is always changing, so policies should recognise the need for positive change through the enhancement of existing qualities or the creation of new ones of equal or greater value.

With regard to biodiversity, the 'wider landscape' approach aims to sustain ecosystem services by reinforcing the intactness of environmental systems. This may include a strategic commitment to habitat reconnection through green and blue corridors which may facilitate species diffusion and possess habitat value. Whilst they have broad support, corridors remain contentious as there is limited direct evidence of their ecological necessity. They may also facilitate the movement of predators or invasive species.

It is widely argued that 'special area' and 'all area' approaches are complementary rather than mutually exclusive. Thus, designation remains appropriate where areas are recognised as being of particular value, or because they are degraded and require more active management. The recognition of special areas is typically based on:

- An 'accolade' – identifying areas as having great merit, without actually claiming they are the very best or most typical;
- Representativeness – forming part of a series which is representative of particular habitats, etc.
- Special quality – where the area is especially suitable for meeting certain social goals, such as access to wild land. Sometimes these qualities could be 'negative', such as land in particular need of remediation or reconnection.

These types of designated area are increasingly seen as 'greenprints' (MacEwen and MacEwen, 1987), where exemplary sustainable development practices can be explored and demonstrated (e.g. Holdaway and Smart, 2001), latterly through mechanisms such as the Sustainable Development Fund[1].

The International Union for the Conservation of Nature and Natural Resources (IUCN, 1994), defines a 'protected area' as: "an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means." A key point in this definition is that the protection is 'effective.' This is generally taken to mean that the area is protected by statute in the case of public land, or by a covenant or conservation agreement in the case of privately owned or indigenous land. Six main categories of area are defined, ranging from strictly protected wilderness to traditionally managed natural resource areas. Category V (Protected Landscape/ Seascape) comprises important cultural landscapes which remain largely in private ownership, including the UK National Parks.

The designation of an area implies that some clear criteria have been applied. In practice these vary from highly rational to relatively implicit or opportunistic, but there are some recurrent principles. Landscape selection criteria are likely to reflect national significance, intrinsic quality, integrity, evocative qualities, condition, extent, and the defensibility of boundaries. Uniqueness, future potential, and links to natural and cultural heritage are also pertinent (SNH, 1999). Since the late

[1] In the national parks of England and Wales, this government scheme grant aids individuals and communities to find sustainable ways of living and working, whilst enhancing and conserving the local culture, wildlife and landscape.

1970s, biological conservation importance has been strongly influenced by the 'Nature Conservation Review' criteria – size, diversity, rarity, naturalness, typicalness and fragility, accompanied by secondary considerations such as recorded history, potential value, position in an ecological or geographical unit, and intrinsic appeal (Ratcliffe, 1997).

Designations also typically apply to different spatial scales, namely:

- International – to promote comparability of terminology and standards, to ensure consistency of protection, to pursue the retention of a representative range of the world's ecotopes and biodiversity, to take a transnational approach to the needs of migratory species, and to respond strategically to large-scale environmental change. These are generally given effect by statutory national designations.
- National – to conserve a series of a country's habitats, species and characteristic landscapes, either on a 'representative' or an 'accolade' basis.
- Regional and Local – to supplement the national network where local assets are perceived to be at risk of destruction or to have potential for promotion, often on a non-statutory basis.

We appreciate increasingly that migratory species do not recognise national boundaries and that much of the world's biodiversity is at risk of extinction for want of effective large-scale protection. This gives extra purpose to the international scale, such as the EU Birds and Habitat directives (which underpin a European ecological network, NATURA 2000), and the Ramsar Convention, which commits signatories to safeguard key wetland areas. One of the categories of action required by the European Landscape Convention is landscape protection, requiring intervention to conserve and maintain the significant or characteristic features of landscapes possessing important heritage value. National designations may thus serve a dual purpose – to deliver domestic policy on countryside and heritage protection, and to comply with international obligations. Pragmatically, even if a country were to de-emphasise the role of designations in its domestic policy, it is difficult to see how compliance with international obligations could be demonstrated without retaining site- or area-based approaches.

3 The Effects of Designation

The key effect of designation is to divert a number of carrots, sticks and sermons preferentially towards the defined area (Table 1). These will have the greatest force where designation of the area has been on a formal, legal basis.

Table 1 near here

A typical effect is to apply additional restrictions to certain types of land use change through planning control. Whilst primary planning legislation does not differ inside UK designated areas, its application may be modified through plan policies and lower levels of exemption from planning controls, which add up to a 'touching of the tiller, rather than a radically different level of state control over land use' (Willmore, 2002). Planning controls may usefully be thought of in terms of a gradation (Roger Tym and Partners, 1995):

- The **core** of development control where full controls are in operation, and where a planning application is usually required;
- The **inner boundary** of planning control, where the planning authority may determine whether a particular proposal requires planning permission;
- **Permitted development**, for which planning permission is not normally required except in specific instances;
- The **outer boundary** between permitted development and no planning controls at all, as the land use involved (e.g. agriculture, forestry) is exempt from control, although other environmental controls may apply.

In legally established designated areas, there is clearly scope for the more rigorous application of core control (e.g. higher design standards) and the selective removal of permitted development rights (e.g. for telephone masts, fish farming and agricultural structures). These restrictions are sometimes supported by a notification system to inform the planning authority of proposals which it may require to determine. A study of permitted development affecting natural heritage interests in Scotland (Heriot-Watt University, 2002) identified particular areas of concern in relation to farm and forestry tracks and buildings, engineering works to rivers and for land drainage, works by statutory undertakers and utility companies, and road maintenance and associated works by local authorities. The report cautioned against blanket removal of permitted development rights, but indicated a number of areas for notification, clarification, policy development and targeted withdrawal. Illsley and Richardson (2004) show how the application of planning controls was contested in relation to the Cairngorms National Park, where the authority was eventually restricted to 'call in' powers unlike the full planning powers of other UK national parks. In this Park, a heavy reliance has been placed on the use of negotiation and partnerships to deliver sustainable development objectives. However, it is not clear that the local organisations engaged in these partnerships have the capacity to achieve full implementation of national park goals (Stockdale and Barker, 2009).

The effect of planning measures is principally one of control, notwithstanding the increasingly positive role of spatial planning in enhancing quality of design or obliging large-scale developers to pay for local benefits (TCPA, 2003). Many conservation objectives require more active stimulation of sympathetic land management, and this needs to take place in a spirit of cooperation and support. Hence a key purpose of designation is to channel payments and advice to target areas. For SSSIs, positive partnerships are now promoted (Defra, 2003) between government agencies, landowners and land managers based on clear statements or management schemes. The key to achieving the target of 95 per cent of SSSIs in 'favourable' or 'recovering' condition by 2010 is now seen to rely on the promotion of good management by advice and targeted agri-environment payments.

Whilst designations do have a 'selectivity' effect, this may now be less than in the recent past. Willmore (2002) notes how provisions originally directed at designated areas have progressively been subsumed into measures for the countryside at large. Special access provisions in National Parks and 1980s 'maps of moor and heath' have effectively been washed over by more recent planning and countryside access measures. Agri-environment payments have tended to move away from a designated area basis (e.g. Tir Cymen, Environmentally Sensitive Areas) towards a criterion-based approach. However, the basis for assessing Higher Level Scheme applications means that in practice they will skew towards designated conservation land.

Designation may also improve the contribution of public bodies and other utility providers. In English and Welsh National Parks, public bodies and statutory undertakers must 'have regard' to their purposes (Environment Act 1995). The requirement is stronger in Scotland, where regard must be given to the more specific provisions of the National Park Management Plan. The potential effect of these duties is significant, given that national park authorities in the UK do not own about 97 per cent of their designated area, in marked contrast to the international definition of national parks. In England and Wales, around a quarter of the total area of National Parks is owned by organisations that have obligations under the Environment Act (e.g. Forestry Commission and water companies), or by sympathetic private and voluntary organisations (Willmore, 2003). The latter include the National Trust, a charity with extensive land holdings in the national parks, whose legislation and purposes lead it to manage their estate in an exemplary manner for sustainable development (e.g. National Trust, 2001).

4 Drivers of Change in Designated Areas

Like all landscapes, designated areas are subject to drivers of change, both cultural, including development, and natural, for example coastal erosion. These may lead to gains and losses in both the quantity and quality of land. The drivers are closely related, but may be broadly categorised as policy, social, technological, environmental and economic. It is necessary to review the nature of these forces before assessing whether designations can influence them.

Policy drivers

Policy drivers are often beneficial for designated areas, and are the principal force whereby areas are designated in the first instance. Some policies (e.g. highway construction, or economic development) may reduce the quality and quantity of designated areas, but this problem has become mitigated over time by increasingly stringent environmental controls and the coupling of development policies to the delivery of new conservation assets such as green infrastructure.

Worldwide, there has been a rapid growth in nationally designated protected areas, with a tenfold increase in the number of protected areas in the world over the past four decades. Over 18.8 million square kilometres are currently under protection (Chape et al, 2003). In the UK, the area of land and sea which is protected for nature conservation purposes increased from 2.3m ha to 3.5m ha between 1996 and 2008, although this increase area may now be slowing (Figure 1).

Figure 1 near here

There is also evidence of a plateau being reached in landscape designations, although there will continue to be periodic boundary reviews. In England and Wales, there is no intention to expand the number of Areas of Outstanding Natural Beauty, whilst a review of National Scenic Areas in Scotland concluded that the existing network was broadly sufficient. The addition of new National Parks in England and Wales is unlikely now that the 1950s bias towards uplands has been rectified by designations in the Norfolk Broads, the New Forest and the South Downs. The longstanding anomaly of Scotland's exclusion from the national park family has similarly been addressed with the Loch Lomond and Trossachs, and Cairngorms Parks. The only current national park proposals are in the Mournes in Northern Ireland and a community-led proposal for Harris in Scotland.

It might be argued that policy drivers are increasingly concerned with ensuring the condition of areas and the effective involvement of communities and stakeholders, rather than rapidly expanding the quantity of land under protection. Internationally and nationally, a target of around 10 per cent of land under protection has served as a widespread rule of thumb, loosely underpinned by experience, practicality and science. The World Database on Protected Areas indicates that the Convention of Biological Diversity target of 10 per cent coverage of each biome should be reached

imminently. Globally, the overall land under protection is slightly in excess of this, although protection and management are very varied (Coad et al, 2008; Chape et al, 2005). It has been suggested that it would be useful to debate whether there is an appropriate upper limit to the level of designated land in the UK. Berkeley Hanover et al (2004) note that economic analysis can in principle answer this question, yet assessments on a site-by-site basis cannot do so because they rarely control for how much equivalent designation already exists, making the benefit of marginal increases in designations difficult to calculate.

Social Drivers

Social drivers relate both to the population within the designated area, and the population visiting or deriving other benefit from it. Within the area, there may be issues of social cohesion, particularly where there is a substantial local population which requires decent, affordable housing. There is a growing emphasis on community involvement in protected areas, including the direct management of land, and potentially involving local communities in campaigning for designated area status where it is perceived as a stimulus to new employment and revenue streams. The World Network of Biosphere Reserves emphasises systematic dialogue on resource use between institutions and stakeholders (Bouamrane, 2007; UNESCO, 1995).

Societies with higher levels of education are likely to demand the non-market benefits supplied by protected areas. A pervasive issue is the reconciliation of goals such as conservation, wildness and tranquillity with those of public access and recreation. Society's goals regarding cohesion and inclusivity, and protected area management authorities' responsibilities to encourage sustainable modes of transport such as walking and cycling, may mean future pressures to provide designated areas close to major centres of population. These may tend more towards promotion than control,as with emerging proposals for regional parks in England, and would perhaps be similar in nature to project areas such as the Central Scotland Forest and the National Forest in England.

Technological Drivers

Technological drivers are typically threefold. First is the direct impact of new technologies such as telecommunication masts and wind turbines, and the provision of broadband connections to ever more remote areas (Park et al., 2008). Second, there are ripple effects of wider technological shifts in society, such as the manifold consequences of moving towards a low-carbon future (Selman, 2009). Finally, there are changes in land management, such as increasingly industrial forms of

farming and forestry or, conversely, the reintroduction of traditional methods and regional livestock breeds, a form of conservation technology.

Environmental Drivers

The most publicised environmental driver is climate change. This will have particular effect in biodiversity designations, which have often been selected because the sites host species at the limits of their range. Climate change impacts on designated areas may be summarised as:

- 'Phenological /trophic mismatches', such as earlier temperature-induced breeding not coinciding with the availability of food sources, changes in flowering dates, or earlier arrival of migrating birds and fish;
- Inability to disperse from areas with deteriorating conditions due to loss of landscape connectivity;
- Disruption of ecosystem services such as increased risk of moorland fires, changes in wetness, and increased incidence of pests and diseases;
- Loss of land due to coastal 'squeeze' and river flooding[2].

Changing environmental conditions will place particular pressures on populations at the 'leading edge' and 'rear edge' of their species range. Hampe and Petit (2005) emphasise our poor understanding of these populations in terms of their relative contributions to genetic diversity and evolutionary potential.

Climate change may also alter landscape character. Broadmeadow et al (2005) have reported on the likely changes in distribution of common tree species, noting that the majority of broadleaf species may become unsuitable for commercial timber production in southern England. Their likely substitutes are from the coastal areas of western France or the Mediterranean region at high elevation, bringing a range of visual, biodiversity and genetic implications. In addition, regionally based climate change scenarios (e.g. Best Foot Forward, 2006) point to new patterns of agriculture, including different types of crops, additional irrigation and changes in the timing of farming operations.

Economic Drivers

Economic drivers are broadly of three types: those (mainly policy drivers) which put money into the designated area system, for example through farm payments; those which lead to development,

[2] based on The European Platform for Biodiversity Research Strategy http://www.epbrs.org/

potentially causing damage to the special qualities of the designated area; and those where there is a 'virtuous' link between landscape and local economy (Selman and Knight, 2006). This could happen because distinctive and typical products are embedded within a locality, or because there is a positive link between environmental quality and sustainable inward investment. Some of these may be explicitly linked to designation itself, such as product branding, grant targeting and sustainable tourism promotion. A significant challenge to evaluating the magnitude of economic drivers is that many of the key services provided by designated areas do not have a market value. Much effort has been spent in ascribing values to non-market goods so that the ecosystem services of designated areas receive Exchequer support or are prioritised relative to market drivers.

5 The Costs and Benefits of Designations

A number of studies have investigated the costs and benefits (Table 2) of designations. These impacts tends to be affected by primary and subordinate legislation and by planning, management and policy objectives. As with any land use having a 'multiplier' effect, economic impacts would be of three types (Colhoun, 2008): 'direct' (e.g. expenditure by visitors on travel, eating, accommodation and other services); 'indirect' (e.g. expenditure by businesses on purchasing, transportation, training, etc.); and 'induced' (effects from the injection and cycling of visitor income through the local economy in and adjacent to the designated area, such as increased expenditure by the catering sector). These effects could be costs as well as benefits. All studies of these benefits agree that there is a methodological problem of 'additionality' – how the effects of designation can be separated out from those associated with fine landscapes generally. Whilst National Parks often provide statistics on the money generated through visitor expenditure, the lack of a comparator from before designation limits the value of such estimates.

Table 2 near here

Costs and benefits may be perceived, as well as actual. A study of the proposed Mournes national park noted that opposition to the proposals came mainly from the farming and landowning community, whilst support was mainly from the public organisations and business, tourism and environmental interests (Colhoun, 2008). This concurs with Willmore's (2002) observation that residents living in the New Forest National Park area expressed concerns that designation would result in their area being run by outsiders, in an overwhelming growth in visitors, in costs to locals through local taxation, parking charges, etc, in duplication of local authority powers, and in the imposition of substantial new powers to regulate activity. By contrast, the bodies responsible for

national park designation tended to see it as bringing in new resources, high management standards, a framework to preserve amenity and tranquillity in the face of visitor pressure, and a focus for advocacy of the area as a coherent unit.

Based on studies of the Natura 2000 series in Scotland (Jacobs et al, 2004) and proposed Management Strategies for National Scenic Areas in Scotland (Scottish Executive Rural Group, 2006), the following costs of designation may be identified:

- Administrative and policy costs: the designation process itself (administration of selection process, survey; consultation and land purchase); management, planning and administration costs, costs of management bodies, consultation, rent and administration, and provision of staff, buildings and equipment; ongoing management actions and incentives including conservation management measures, fire prevention, research and monitoring, visitor management, interpretation and publicity material, and training and education; and 'occasional' capital investments (restoration or improvement of habitat or status of species, compensation for rights foregone or loss of land value, habitat surveys, and infrastructure for public access).
- Costs of foregoing profitable activities on the designated land ('opportunity costs'). These can include lost economic output from agriculture, industry, fishing, property and tourism, and social impacts such as loss of income and employment opportunities. The study makes the point that these might be reduced in many areas of importance to conservation because of their remoteness and their reliance on subsidies which need to be removed from the calculation of opportunity cost.
- Indirect costs or secondary effects. These include the management of recreational impact if the designation attracts large numbers of visitors, or controlling increased numbers of wildlife if they damage economic crops. Such impacts are very difficult to quantify and value.

The NSA estimated strategy preparation costs at 44 person years (annual cost £45,000, total cost £1.98 million), on-going core costs to support implementation at £850,000 per year for 19 officers, potential costs of 'new money' to support NSA-specific projects at £1.44million, and an unquantified but relatively small hidden burden on local authorities. Additional costs for local authorities would create problems of equity, as the number of Management Strategies in which individual authorities would be involved ranged from none to 15. There may be additional bureaucratic requirements on some businesses, but these might well be balanced by environment-related revenue streams.

The broader costs of designated areas on economic activity are difficult to quantify and often shrouded in myth. A study of the cost of biodiversity designations in Wales (Berkeley Hanover, 2004) relied mainly on interviews with operators in order to establish the range of perceived impacts. This reported effects in two areas:

- Regulation and business operating costs. The regulation of activities on designated sites can raise the costs of operations, limit the range of productive activities, and limit the output of permitted productive activities. Profits are reduced by additional regulatory costs, and to the extent that this is seen to be a long-term reduction these losses will be capitalised in lower land values.
- General development. Biodiversity designations do not seem to provide a barrier to development, mainly because spatial environmental designations are unlikely to be allocated for development use. Where they are, such as highway or infrastructure schemes, the system provides for mitigation measures. Smaller projects were more likely to be deterred by designations. This is of some concern in economic sectors where the scale of operation is typically small (e.g. agriculture, fishing and ports). The report recommended some changes in relation to rationalised databases, improved decision times and better advice on mitigation measures, but overall did not express major concern about economic impact. However, the study focused specifically on biodiversity designations and noted that "most people are more concerned with landscape designations and National Parks in particular".

The issue of benefits associated with designated areas was addressed in the previously mentioned study of Scotland's Natura 2000 sites (Jacobs, 2003). Benefits were quantified in terms of their Total Economic Value, which comprises the direct use, indirect use and non-use welfare values of a good, service or system. Direct use values consist of extractive uses (where a resource is removed by a user from a system, such as water abstraction or minerals extraction) and non-extractive uses, such as recreational activities, where the resource remains for subsequent users. Indirect use values arise where ecosystem functions and habitats possess sufficient integrity to deliver benefits elsewhere (e.g. the maintenance of the quality of a lake elsewhere). Non-use values can arise whether or not there is any actual use of a resource, for example where people feel it is important to keep a resource intact as an 'insurance' against future needs, to ensure that it is available for future generations to enjoy, or simply to ensure that it is there in the future. Sites may possess an 'altruistic' value (Jacobs, 2003) where people recognise the value of a resource to others. They may

also deliver social benefits such as education and health, which may be reflected as non-extractive use and non-use values.

Calculating present value benefits and costs over 25 years, Natura 2000 sites in Scotland were attributed economic welfare costs of around £480 million and economic welfare benefits of around £3.5 billion, although some 99 per cent of these were from non-use values. There were also uncosted welfare benefits linked to social, cultural, educational, research, health and ecosystem services.

Calculations of the costs and benefits of designated areas are fraught with difficulty as they are subject to numerous assumptions about public preferences (Table 3), and those which can be determined with some confidence (e.g. agricultural product foregone or cost of land acquisition) are typically quite small components of the total calculation. Further, Hall et al (2004) concluded that it was impossible to assemble comparable evidence on public preferences for biodiversity, because of the methodological differences between studies.

Table 3 near here

A useful overview of the balance of the costs and benefits of designation is provided by the Mournes study (Colhoun, 2008). This anticipated that the branding effect of designation would significantly increase visits by people who were attracted by the expectation of a landscape of high quality. The author noted that in 2001, 280 million people visited 388 sites in the US National Park System, spending $10.6 billion during their visits (Annett *et al*. , 2006). This spending generated $4.5 billion in wages, salaries, and payroll benefits, and 267,000 jobs in tourism-related businesses. It was estimated that designation of a Mournes National Park would bring an increase in visitors to the Park itself and to the surrounding wider area. Estimates of tourism and day visitor expenditure were £57-82 million in the wider area (£30-43 million in the proposed National Park area), associated with an additional 800 jobs in the tourism and hospitality sector by 2020 (500 in the actual National Park area).

Conversely, there could be significant and sometimes adverse impacts. There is a considerable body of evidence indicating that designation of a National Park increases property values, and US evidence suggests that this may also occur on the fringes of the Park. This effect varies according to the existing level of development of the local property market. Mourne residents expressed considerable concern over the likely effects on the affordability of housing. Annett *et al*. (2006) showed that the serious shortage of affordable housing within English and Welsh National Parks has had a particularly acute effect on young people and key workers. In all the local authority areas

within England's National Parks, gross full-time earnings were nearly 15 per cent below the national average: at the same time house prices in six of the Parks were above the national average. Local people were also concerned about congestion linked to under-provision of facilities.

Whilst National Park designation could potentially increase visitor damage to sensitive habitats and heritage resources, the Mournes study regarded impacts on heritage as generally positive, with improved levels of protection, awareness and funding. Agriculture might also benefit from additional environmental payments, in a national context of limited economic options for farmers. The study drew attention to a number of case studies where designation had helped to draw down additional funding, notably the Cairngorms National Park Authority scheme to assist the training of land-based workers (supported by the European Social Fund) and the Rhaglen Tir Eyri (co-funded by the Snowdonia National Park Authority and the Countryside Council for Wales) which offered assistance to land managers for improvements to landscape, biodiversity, access and heritage.

Several studies have illustrated a link between natural heritage and socio-economic activity (e.g. Coulthard, 2002; National Trust Wales et al, 2006), especially in more economically fragile areas, and it may be presumed that there is a strong link between designations and the continued supply of natural heritage benefits. The previously mentioned study of National Scenic Area (Scottish Executive Rural Group, 2006) identified socio-economic benefits that could be enhanced by Management Strategies, including greater awareness, understanding and pride; improved opportunities for the enjoyment of landscape; encouraging activities that will contribute to people's health and wellbeing; encouraging landscape management in support of ecosystem services; and supporting Scenic Area-related business opportunities. These include direct land management, and products and services linked to the high environmental quality. There are also non-use values that bring benefit to individuals and society at large. Whilst the quantification of benefits specifically associated with designation and Management Strategies is impossible, estimates suggest that tourism in Scotland supports 145,000 full-time equivalenty jobs, of which 71,000 are dependent on the natural heritage.

6 The Effectiveness of Designations

A number of studies point to the broad effectiveness of the designation approach in achieving conservation goals, although the multiplicity of purposes and a lack of systematic data mean that conclusions require a degree of conjecture. The lack of a control situation is also problematic. In one of the few studies which considered the performance of protected areas in relation to 'control' sites,

based on a metadata analysis of numerous international locations, Nagendra (2008) found that protected areas had significantly lower rates of clearing in comparison to their surroundings, and their rates of clearing were significantly reduced after designation. However, these effects were most positive in relatively developed regions of North America and Europe, whilst the highest rates of land cover clearing persisted in protected areas in Asia. Protected areas in Asia, Africa and Latin America had to contend with more complex situations of multiple actors and drivers of change.

Price (2002), reporting on the World Network of Biosphere Reserves (WNBR), commented on the difficulties of ensuring their objectives in practice. Since their first formulation by UNESCO in 1974, these reserves have pursued objectives of conservation and ecological research, supplemented by education and training, which have been given effect by a system of conserved core zones and managed buffer zones. In practice, it was found (IUCN, 1995) that:

- only about half of biosphere reserves consisted of a national park with an additional buffer or transition zone;
- the innovative, interdisciplinary, and multifunctional nature of the biosphere reserve concept presented a challenge to many traditional protected area management agencies;
- lack of proper administration reduced the ability of the biosphere reserve to function according to the principles outlined in the concept;
- within the general management structure of many biosphere reserves, there was little opportunity for local communities to participate in decision-making or planning.

A process of periodic review has been introduced to help align reserves to current expectations.

Southworth et al (2006) explore how park landscapes often suffer from biological and socio-political dilemmas caused by conflicts between biodiversity goals and local livelihood strategies. In particular, there are significant tensions around whether the park strategy should include or exclude human activity. Strict safeguards may protect wild populations and prevent habitat loss, but can also cause 'islandization' of parks (Child, 2004) and miss opportunities to engage indigenous populations and their local knowledge. Despite the growth in protected areas, the authors note that we have little knowledge about how effective the conservation strategies currently deployed throughout the world are, including the benefits or otherwise of including the local population in decision-making processes. Whilst exclusionary approaches appear better at limiting land cover transformation compared to the surrounding landscape (Bruner et al, 2001), there is little evidence as to whether community-based arrangements, private ownership or participatory management might have achieved equal or better results (Stern, 2001). Lü et al (2003) also noted the lack of evaluation of

protected areas. Applying their own evaluative framework to a flagship nature reserve in China (the Wolong Biosphere Reserve), they showed how nature conservation and scientific functions were emphasised over social and economic development and environmental education.

There are widespread suggestions that designations may be weak in safeguarding sites against development pressure where there are tempting economic opportunities. In a study of foreign direct investment, Phelps and Tewdwr-Jones (2001) showed how the state applied barriers and opportunities selectively when dealing with major investors, by-passing normal local democratic processes and ignoring environmental protection policies. They drew particular attention to the case of a Site of Special Scientific Interest near Newport, South Wales. A further concern, supported by mainly anecdotal yet plausible evidence, is that designations may have a displacement, or 'halo', effect in diverting development – wind farms being a prime example - just outside its boundaries.

In the UK, the condition of Sites of Special Scientific Interest (SSSIs), the principal geo- or bio-diversity designation, has received much criticism in the past. The most recent evidence indicates a reduction in development damage, and an increase in the extent of their 'favourable condition'. Current evidence suggests that designation has encouraged targeted action in terms of habitat recovery, particularly in relation to the approximately 40 per cent of SSSI area that was formerly in unfavourable condition and is now recovering. Of the sources of continuing damage, only a small fraction reflects irreversible damage by development (Natural England, 2008b; National Audit Office, 2008).

Rodrigues et al (1999) noted that most assessments of existing networks of protected areas considered them to be woefully inadequate, with some studies finding they performed no better than neighbouring unprotected areas. However, their own study of the SSSI network of wetland fen sites in Southern Scotland was more encouraging. Whilst accepting that a range of non-scientific factors, often political or financial, influence site acquisition, they found that in this instance the SSSI network was actually rather successful at representing diversity. This was, based on a measure of effectiveness which reflected the actual capacity of the network to represent rare and common species, relative to its ideal capacity.

If the effect of biodiversity designations is difficult to determine, the problem for landscape designations, with their more qualitative attributes and wider range of purposes, is even greater. The currently preferred solution to monitoring landscape change is to assess land cover changes in relation to landscape character, an approach which has been taken by the Countryside Quality

Counts (http://countryside-quality-counts.org.uk/) programme. This assessment has shown that between 1999 and 2003:

- Existing landscape character was maintained in 51 per cent of England's landscapes and enhanced in a further 10 per cent
- Loss or neglect of character was shown in 20 per cent of England's landscapes
- New characteristics were emerging in 19 per cent of England's landscapes.

However, conclusions should be drawn from this analysis with caution, as change in landscape character is not necessarily undesirable, so a presumption in favour of conservation or enhancement is not always appropriate. Alteration of landscape character may be desirable for three main reasons: current character may be degraded, and change may reflect positive, planned intervention; the perception of enhancement or deterioration may be subjective – for instance, there are widely varying views as to whether wind turbines are a blight or an attraction (Jallouli and Moreau, 2009); and conformity to landscape character may result in pastiche design styles. Adherence to vernacular principles may not always be desirable, perhaps especially during a period of transition to low-carbon buildings.

Much of the key research on the effectiveness of landscape designations is now quite dated, although its broad message probably remains valid. Notably, Blacksell and Gilg (1977), Anderson (1990) and Brotherton (1994), studying various AONBs and National Parks, found that the existence of a designation had a surprisingly small effect on planning application and refusal rates. This led the authors to conclude that too little effort and support were being put into defending landscape designations and carefully articulated local policies. However, the authors tended to agree that designation may have had a deterrent effect in discouraging inappropriate applications as well as a positive influence on the quality of proposals. Cobham Resource Consultants (1988), in a study of NSAs in Scotland, remarked that while their primary purpose was the conservation of the landscape, planning authorities frequently noted that information on landscape change was not available in a form that would enable them to assess whether NSA landscapes had changed adversely since designation. Key problems were that:

- There is concern that developments are taking place within NSAs which detract from their character;
- The effectiveness of the notification procedure is difficult to gauge;

- The activities of planning authorities in NSAs has been limited to some policy formulation and development control;
- The private sector, with the notable exception of the forestry companies, has little awareness of NSAs;
- The general perception of consultees is that the NSAs have been at best moderately effective and at worst ineffective.

Their own study focused on consultations between the (former) Countryside Commission for Scotland regarding referred matters (certain housing developments and types of building, vehicle tracks and highway works, and fish farms), and found that decisions were about 90 per cent in line with CCS recommendations. Where the local authority took a different line, there was an even balance between refusing developments where CCS had recommended their approval, and *vice versa*. The key finding was that CCS gave careful consideration and explicit advice on notified applications but that its responses did not appear to relate to any clear policy framework. Further, almost all the substance of the consultations was over development control as opposed to more qualitative aspects such as design guidance or landscape strategies.

In addition, the UK has seen a raft of sub-national designations, typically established by or in conjunction with local government. These mainly include geodiversity sites based on national criteria, biodiversity sites which have often been surveyed by nationally consistent methods, and scenic areas which may be based on professional and rational methods though without a consistent approach. The most consistent local landscape approaches have tended to support a 'landscape objectives' rather than a 'landscape designations' approach, i.e. where criterion-based policies are related to an authority-wide assessment of landscape character (Landscape Character Assessment in England, Scotland and Northern Ireland; LANDMAP in Wales). Research on local landscape designations (LLDs) (Chris Blandford Associates, 2006) found on the positive side that:

- Local authorities broadly supported retention of LLDs, often because the alternative (e.g. criteria-based policies related to landscape character assessment) was unproven
- LLDs are widely valued and apparently understood by Members, the public and Officers, though other studies dispute this
- LLDs are considered to be relatively easy to use by Planning Officers, without the need for specialist advice
- LLDs have generally been perceived to be successful in protecting area of high local importance from development.

However, the review found in relation to reliance on LLDs on their own as a key landscape planning tool, that:

- LLD do not generally facilitate or promote enhancement of local character and distinctiveness
- The LLD approach often lacks policy guidance on securing opportunities for conservation and enhancement on 'everyday' landscapes outside the LLD
- LLDs are often not fully justified by a robust evidence base
- LLDs were often not used as primary reasons for refusal in planning applications, as they were perceived to carry insufficient weight
- Over two-fifths of local authorities stated they were considering alternatives to LLDs in their Local Development Frameworks
- only six per cent of responding local authorities said that other departments (e.g. Highways) used LLDs.

Scott and Shannon (2007) assessed local landscape designations in Scotland as landscape management tools. They found that although national guidance favours their judicious and flexible use for positive land use planning, their implementation is characterised by inconsistent and protectionist stances. An inherent lack of strategic planning, management and public involvement obfuscates their identity, integrity and purpose. They concluded that local landscape designations are not meeting their full potential and argue for a more collaborative, management–orientated but community-led focus.

National Parks are now conducting State of Park Reviews and, whilst these do not yet give a collective picture of change, in the future they should accumulate towards an evidence base. There does not appear to be a standard set of indicators. But information is generally being collected about: access (e.g. designated areas' contribution to social inclusion); biodiversity, flora and fauna (e.g. shifts due to climate change, habitat fragmentation, land-take for development); climate (e.g. sea level rise and coastal erosion); cultural heritage (e.g. erosion of historical assets, number of listed buildings at risk); economy; housing and development control (e.g. development on flood plains, trends in second or holiday homes); landscape (e.g. climate change impacts, rural tranquillity); quality of life (e.g. contribution to health and fitness); tourism and recreation; and traffic and public transport.

7 Beyond Designations?

Despite the widespread popularity of designations, their validity as an instrument of conservation for the 21st century has been called into question. The Madrid Action Plan for Biosphere Reserves (IUCN, 1995) remarked on the widespread and continuing pressures that had prevailed despite rapid increases in the extent of protected areas, calling into question the effectiveness of the designation approach.

There are six types of argument against designations. They do nothing for the wider countryside, despite our knowledge that landscape character and ecological potential are everywhere; the countryside is cluttered with numerous, sometimes overlapping, national and local designations which could be rationalised; designations privilege elite areas at the expense of everyday places and spaces that enhance local liveability and sustainability; they do little to reconnect habitats or other socio-environmental systems; they do little to expand the stock of conservation resources, for example by the creation of new habitats; and, as they are based on historic situations, they may increasingly be in the wrong places relative to future climatic conditions, settlement patterns and social need. For example in England, it is estimated that 84 per cent of broadleaved woodlands, 45 per cent of heathlands, 14 per cent of semi-natural grasslands, and 26 per cent of mires, fens and bogs lie outside SSSIs (Catchpole, 2007). So an inherited pattern of designations could lead to a flat-footed response to 21st century drivers.

Bishop et al (1995) have argued that despite their many strengths, practical experience with protected areas has revealed numerous 'external' and 'internal' problems (Table 4). External difficulties derive from a failure to integrate protected areas into other aspects of public policy. Internal ones are to do with how the concept has been applied within its own sphere of influence. External problems include: treating protected areas as 'islands' set apart from surrounding areas; the tendency to see protected areas as an alternative to a wider conservation strategy; the failure to integrate protected areas requirements into wider policies, such as agriculture; inadequate recognition of the needs, interests and knowledge of local people within protected areas; and limited public and institutional support for protected areas. The internal problems are closely related, and often occur as symptoms of external ones. They include limited financial resources, gaps in scientific and other information, inadequate planning and management powers, and inadequate training. In response to these criticisms, Bishop et al (1997) note that practices of nature and landscape conservation have become more integrated with other policy sectors and the wider countryside, and are designed increasingly to perform multiple functions rather than narrowly scenic or scientific ones.

Table 4 near here

The England Biodiversity Strategy has demonstrated an awareness that exclusive reliance on a site-based strategy will be inadequate in an era of climate change (Smithers et al, 2008). Direct impacts of climate change are already occurring and will be accompanied by indirect effects from human responses to change (Mitchell et al, 2007). In view of the uncertainties surrounding the degree and incidence of these impacts, a precautionary response is advocated. Amongst other things, this will entail combining site designation with action in the wider countryside. One strategic principle seeks to conserve protected areas, as "the richness of future biodiversity...will depend largely upon the biodiversity we conserve today". Other strategic principles, however, aim to maintain and increase ecological resilience by maintaining and de-fragmenting ecological networks, and to accommodate change by creating habitats and making space for the realignment of rivers and coasts. A responsive conservation approach will need to embed designations within landscape-wide strategies (Selman, 2006). These may involve habitat networks based on gap-filling and anticipatory extension (Catchpole, 2008; Grieve et al, 2006), and large-scale habitat creation based on the notion of 'future natural' (Adams, 2003).

Landscape-scale options are thus likely to complement, rather than negate, an approach based on designation. Whilst there are many valid criticisms of designation, and about the quality of evidence on which to evaluate their value for money, they continue to deliver a range of benefits. Even ignoring their material benefits, the magnitude of non-extractive benefits they provide would appear massively to outweigh their direct costs. Many observers would agree with MacEwen and MacEwen (1982) that, for all the flaws of designated areas, far worse would befall the countryside in their absence. Although the additional benefits of the act of designation can rarely be demonstrated, it does seem likely that a large amount of benefit would be lost if there were to be wholesale de-designation.

Yet over-reliance on an inherited network of designated sites and associated elitist aesthetics might deny us a fleet-footed response to future environmental change. Given the levels of risk and uncertainty in our land-use futures, a policy based on 'minimum regret' would seem to be appropriate. It is clear that society could regret an approach which either compromised its designated areas or failed to complement them with wider landscape-scale measures.

REFERENCES

Adams, W. 2003. Future Nature. Second Edition. Earthscan, London. 294pp.

Anderson, M. 1990. Areas of outstanding natural beauty and the 1949 National Parks Act. Town Planning Review 61 (3), 311-339.

Annett, J.A., Joyce, J., Scott, P. 2006. Potential Impacts of National Park Designation in Northern Ireland. Countryside Consultancy, John Joyce and Peter Scott Planning Services Ltd., Kilkeel.

Berkeley Hanover Consulting in association with TACP. 2004. Assessing the impact of environmental designations final report. Report to the National Assembly of Wales. BHC, London.

Best Foot Forward. 2006. East Midlands: Regional Targets and Scenarios for Renewable Energy. Best Foot Forward, Oxford.

Bishop, K., Phillips, A., Warren, L. 1995 Protected for ever? Factors shaping the future of protected areas policy. Land Use Policy, 12, 291-305

Bishop, K., Phillips, A., Warren, L. 1997. Protected Areas for the Future: Models from the Past. Journal of Environmental Planning and Management, 40, 81-110.

Blacksell, M. And Gilg, A. 1977. Planning control in an Area of Outstanding Natural Beauty. Social and Economic Administration, 11, 206-215.

Bouamrane, M. (Ed). 2007. Dialogue in biosphere reserves: references, practices and experiences. Biosphere Reserves – Technical Notes 2. UNESCO, Paris

Broadmeadow, M., Ray, D., Samuel, C. 2005. Climate change and the future for broadleaved tree species in Britain. Forestry. 78, 145-161.

Brotherton, I. 1994. Planning policy in the National Parks of England and Wales, 1944-8. Journal of Environmental Management 40 (3), 275–281.

Bruner, A. , Gullison, R. , Rice, R., Gustavo, R. da Fonseca, A. 2001. Effectiveness of parks in protecting tropical biodiversity. Science, 291, 125–128.

Catchpole, R. (2007) England Habitat Network: Briefing Note. Natural England.

Catchpole, R.D.J. 2008. Knowledge for Ecological Networks (KEN) Project Report - England Stakeholder Analysis. ECNC, Tilberg, The Netherlands.

Chape, S., Blyth, S., Fish, L., Fox, P., Spalding, M. (compilers) (2003). 2003 United Nations List of Protected Areas. IUCN, Gland, Switzerland and Cambridge, UK and UNEP-WCMC, Cambridge, UK. ix+44pp].

Chape, S., Harrison, J., Spalding, M., Lysenko, I. 2005. Measuring the extent and effectiveness of protected areas as an indicator for meeting global biodiversity targets. Philos Trans R Soc Lond B Biol Sci., 360(1454), 443-55.

Child, B. 2004. Parks in transition: Biodiversity, rural development and the bottom line. Earthscan, London. 267pp.

Chris Blandford Associates. 2006. Review of local landscape designations main findings of the study. Final report. Report to the Countryside Agency. CBA, London.

Coad, L., Burgess, N., Fish, L., Ravillious, C., Corrigan, C., Pavese, H., Granziera, A., Besançon, C. 2008. Progress towards the Convention on Biological Diversity terrestrial 2010 and marine 2012 targets for protected area coverage. Parks, 17 (2), 35-42.

Cobham Resource Consultants. 1988. The Effectiveness of Landscape Designations in Scotland: a review study; CRC for the Countryside Commission for Scotland and Scottish Development Department.

Colhoun, K. 2008. Potential Impacts of National Parks Designation with Particular Reference to the Proposed Mournes National Park. Report to the Northern Ireland Assembly, Belfast.

Collins, J., Thomas, G., Willis, R., Wilsdon, J. 2003. Carrots, Sticks and Sermons: Influencing public behaviour for environmental goals. Demos, London.

Coulthard, N. 2002. Natura 2000: A Scoping Study. Scottish Executive, Edinburgh.

Department for Environment, Food and Rural Affairs. 2003. Sites of Special Scientific Interest: Encouraging positive partnerships. Code of guidance. Defra, London.

Grieve, Y., Sing, L,. Ray, D., Moseley, D. 2006. Forest Habitat Networks Scotland Broadleaved Woodland Specialist Network for SW Scotland. Forestry Commission, Edinburgh.

Hall, C., McVittie, A., Moran, D. 2004. What does the public want from agriculture and the countryside? A review of evidence and methods . Journal of Rural Studies. 20, 211–225.

Hampe, A., Petit, R. 2005. Conserving biodiversity under climate change: the rear edge matters. Ecology Letters, 8, 461-467.

Heriot-Watt University (The School of Planning and Housing, Edinburgh College of Art/Heriot-Watt University). 2002. Review of Permitted Development Regulations Affecting Natural Heritage Interests in Scotland. *Scottish Natural Heritage Commissioned Report F01AA501*.

Holdaway, E., Smart, G. 2001. Landscapes at Risk? The Future for Areas of Outstanding Natural Beauty. Spon Press, London & New York.

Illsley, D., Richardson, T. 2004. New national parks for Scotland: coalitions in conflict over the allocation of planning powers in the Cairngorms. Journal of Environmental Planning and Management 47, 219-242.

IUCN. 1994. Guidelines for Protected Areas Management Categories. IUCN, Cambridge, UK and Gland, Switzerland. 261pp

IUCN. 1995. Evaluation of the Implementation of the 1984 Action Plan for Biosphere Reserves. UNESCO, Paris.

Jacobs . 2003. An Investigation of the Costs and Benefits of Natura 2000 Sites in Scotland. Scottish Executive, Edinburgh.

Jacobs in association with NFO WorldGroup, Gibson, H., Hanley, N., Wright, R., Coulthard, N., Oglethorpe, D. 2004. An Economic Assessment of the Costs and Benefits of Natura 2000 Sites in Scotland. Environment Group Research Report 2004/05. Stationery Office, Edinburgh.

Jallouli, J., Moreau, G. 2009. An immersive path-based study of wind turbines' landscape: A French case in Plouguin. Renewable Energy. 34, 597-607

Lü, Y., Chen,L., Fu, B., Liu, S. 2003. A framework for evaluating the effectiveness of protected areas: the case of Wolong Biosphere Reserve. Landscape and Urban Planning. 63, 213–223.

MacEwen, A., MacEwen, M. 1982. National Parks: Conservation or Cosmetics?. George Allen and Unwin, London.

MacEwen, A., MacEwen, M. 1987. Greenprints for the Countryside : The Story of Britain's National Parks. Allen & Unwin, London.

Mitchell, R.J., Morecroft, M.D., Acreman, M., Crick, H.Q.P., Frost, M., Harley, M., Maclean, I.M.D., Mountford, O., Piper, J., Pontier, H., Rehfisch, M.M., Ross, L.C., Smithers, R.J., Stott, A., Walmsley, C.A., Watts, O., Wilson, E. 2007. England biodiversity strategy – towards adaptation to climate change. Final report to Defra for contract CRO32.

Nagendra, H. 2008. Do Parks Work? Impact of Protected Areas on Land Cover Clearing. Ambio. 37, 330-337.

National Audit Office. 2008. Natural England's Role in Improving Sites of Special Scientific Interest. The Stationery Office, London.

National Trust. 2001. Farming Forward. Pamphlet. National Trust, London.

National Trust Wales, with Countryside Council for Wales, Environment Agency Wales, Heritage Lottery Fund Wales, Welsh Assembly Government. 2006. Valuing Our Environment: Economic Impact of the National Parks of Wales. Llandudno, National Trust Wales.

Natural England. 2008a. All landscapes matter: Draft policy for consultation. Natural England, Sheffield.

Natural England. 2008b. The State of the Natural Environment 2008. Natural England Publications, Newcastle Upon Tyne.

Park, J., Jorgensen, A., Swanwick, C., Selman, P. 2008. Perceived landscape impacts of mobile telecommunications development in the Peak District National Park, England. Journal of Environmental Planning and Management. 51, 681-701.

Phelps, N., Tewdwr-Jones, M. 2001. Globalisation, Regions and the State: Exploring the Limitations of Economic Modernisation through Inward Investment. Urban Stud. 38, 1253-1272

Price, M. 2002. The periodic review of biosphere reserves: a mechanism to foster sites of excellence for conservation and sustainable development. Environmental Science & Policy, 5, 13–18.

Ratcliffe, D. (Ed.). 1977. A Nature Conservation Review, 2 vols. Cambridge, Cambridge University Press.

Rodrigues, A., Tratt, R., Wheeler, B., Gaston, K. (1999) The performance of existing networks of conservation areas in representing biodiversity. Proc. R. Soc. Lond. B., 266, 1453-1460.

Roger Tym and Partners. 1995. The Use of Article 4 Directions. Department of the Environment. London.

Scott, A., Shannon, P. 2007. Local landscape designations in Scotland: Opportunity or barrier to effective landscape management? Landscape and Urban Planning. 81, 257–269.

Scottish Executive Rural Group. 2006. Enhancing Our Care of Scotland's Landscapes. Paper 2006/2 Edinburgh.

Scottish Natural Heritage. 1999. National Scenic Areas Review: Scottish Natural Heritage's Advice To Government. SNH, Perth. 44pp.

Scottish Natural Heritage and Historic Scotland. 2004. Guidance on Local Landscape Designations. SNH, Edinburgh.

Selman, P. 2004. Community participation in the planning and management of cultural landscapes. Journal of Environmental Planning and Management, 47, 365-392.

Selman, P. 2006. Planning at the Landscape Scale. Routledge, London, 213pp.

Selman, P. 2009 (in press) Learning to love the landscapes of carbon neutrality, *Landscape Research*.

Selman, P., Knight, M. 2006. On the nature of virtuous change in cultural landscapes: exploring sustainability through qualitative models. Landscape Research. 31, 295-308.

Smithers, R., Cowan, C., Harley, M., Hopkins, J.J., Pontier, H., Watts, O. 2008 England Biodiversity Strategy. Climate Change Adaptation Principles. Conserving biodiversity in a changing climate. Defra, London. 16pp

Southworth, J., Nagendra, H., Munroe, D.K. 2006. Introduction to the special issue: Are parks working? Exploring human–environment tradeoffs in protected area conservation. Applied Geography. 26, 87–95.

Stern, M. 2001. Parks and factors in their success. Science, 293(5532), 1045–1047.

Stockdale, A., Barker, A. (2009) Sustainability and the multifunctional landscape: An assessment of approaches to planning and management in the Cairngorms National Park. Land Use Policy, 26, 479-492.

Town and Country Planning Association. 2004. Biodiversity by Design: a guide for sustainable communities. TCPA, London. 35pp.

UNESCO. 1995. The Seville Strategy and the Statutory Framework of the World Network of Biosphere Reserves. UNESCO, Paris.

UNESCO. 1996. Réserves de biosphère : la Stratégie de Séville et le Cadre statutaire du Réseau mondial. UNESCO, Paris.

Willmore, C. 2002. What's in a name? The role of 'National Park' designation. Journal of Environment and Planning Law, November, 1325-1333.

Willmore, C. 2003. The use of land owned by public bodies to deliver National Park objectives. Journal of Environment and Planning Law, February, 148-156.

Table 1 Summary of Range of Positive and Negative Powers Typically Applied to Designated Areas

- Enhanced planning control – stronger planning policies restricting unsympathetic or non-essential development (or even a general presumption against development), removal of permitted development rights (under certain circumstances) and/or notification of permitted agricultural operations, attaching occupancy and residence conditions to new houses;
- Notification and control of land operations (especially with 'operations likely to damage' the scientific interest of SSSIs);
- Statutory duties on management agencies and other public bodies – e.g. national park authorities' responsibilities to balance conservation, enjoyment and socio-economic wellbeing, other public bodies have a responsibility to promote national park objectives on their land;
- Targeting of payments – e.g. central government grant to national parks, Sustainable Development Fund for projects in national parks, Higher Level Stewardship;
- Management and spatial plans – production of Local Development Frameworks by national park authorities, preparation of management plans for AONBs;
- Provision of advice and demonstration – e.g. rangers and wardens in national parks, Land Management Advisory Service (Natural England) to farmers;
- Environmental Assessment – a wider range of projects subject to Environmental Assessment is captured in designated areas (under planning, water management, forestry, highways and agriculture legislation) because of the sensitivity of the environment.
- Targeting of incentives to promote 'virtuous' links between landscape and economy/community;
- Reserve powers, such as rights of entry and enforcement of 'orders'.

Figure 1 Total Area in UK Protected by National Nature Conservation Designations (based on information in http://www.jncc.gov.uk/page-4241)

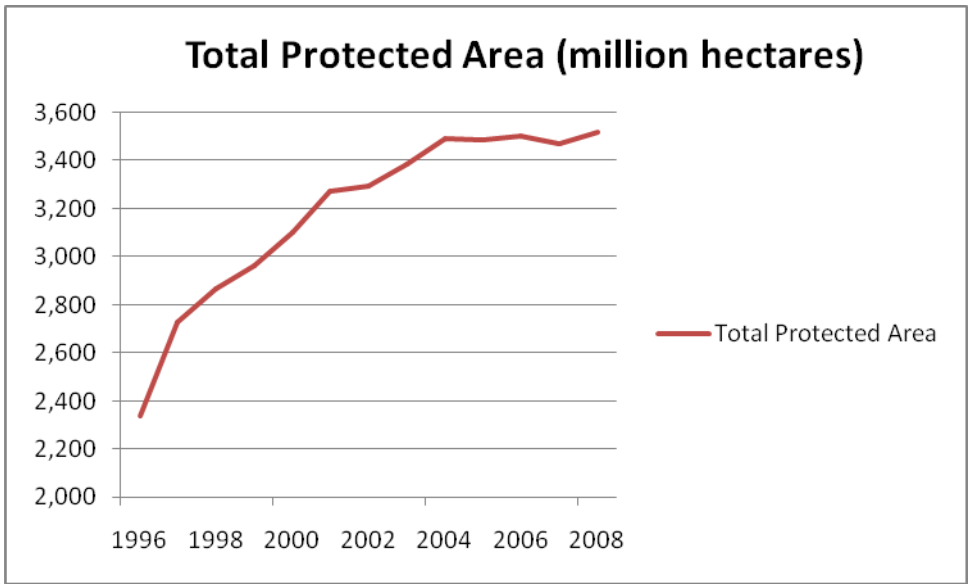

Table 2 Potential Positive and Negative Impacts of National Park Designation (based on Colhoun, 2008)

Potential Positive Impacts

- Additional government funding for the national park area
- Direct employment via an established National Park Authority
- Landscape and built heritage protection and maintenance of the area's biodiversity
- Increased opportunities for recreation and increased numbers of visitors
- Increased visitor expenditure and employment associated with the tourism industry and countryside management
- Increased levels of visitor management
- Higher property values
- Support for local services
- Possible use of the National park 'brand' for local produce schemes and for attracting visitors

Potential Negative Impacts

- Increase in the number of second homes
- Decline in house affordability and change in social mix
- Negative effects on some land values due to increased restrictions
- Possible impacts due to visitor numbers on the landscape, biodiversity and built heritage unless careful management is put in place
- Potential conflicts between tourism/recreation and landowners, especially if access points are not adequate
- Potential increases in traffic congestion associated with increasing numbers of visitors
- Changes in employment profile – tourism jobs which tend to be lower paid and seasonal

Table 3 Range of factors affecting the public preference values of protected areas (Jacobs 2003, 2004)

- Habitat and species type
- Number of species protected
- Rarity of the habitats or species
- Distance from urban areas
- Landscape beauty and quality
- Location
- The degree of threat
- How irreversible the threat is perceived to be
- How well known the resource or site is
- Size of the site
- The 'status' of site (if protected or not)
- Number of users
- Number of nearby substitute sites
- Extent of local employment
- Support for the local 'way of life'
- Relationship of the site with other protected areas

Table 4 Criticisms of the Protected Area Approach (Bishop et al, 1995)

- Protected areas negate the holistic approach
- Protected areas encourage the view that conservation is a sector or a land use
- Protected area boundaries are arbitrary lines on maps
- Protected areas create a 'boundary effect', disconnecting the protected area from what goes on around
- Environmental problems do not stop at protected area boundaries
- Biological phenomena ignore protected area boundaries
- Protected area systems are getting too complex
- There is a growing problem of diminishing returns in the proliferation of protected areas (debasing the notion of 'special')
- Some new ecological thinking questions the value of protected areas (e.g. concepts such as succession and climax)
- Physical changes could make protected areas obsolete (e.g. climate change, marine incursions)
- Protected areas are an inflexible concept
- Protected areas are too defensive a concept
- Protected areas are bound to be weak and small

APPENDIX 1 KEY COUNTRYSIDE DESIGNATIONS IN THE UNITED KINGDOM

International

Title	Purpose	Competent Authority	Approach	Comments
Biosphere Reserve	Promote and demonstrate a balanced relationship between humans and the biosphere, across a representative global network of reserves. Promotes practices of research, monitoring, education and training appropriate to effective conservation.	UNESCO (MAB programme)	Based on zoning (legally protected core, buffer zone, transition zone) and management, in order to conserve ecosystems and biodiversity	Must have regard to the sustainable use of natural resources for the benefit of local communities.
Ramsar sites	The conservation and sustainable utilization of wetlands under the terms of the 'Ramsar Convention'.	Standing committee and scientific review panel, but responsibility lies with 'contracting parties'.	Protection of sites (ideally of sufficient scale/ intactness to maintain ecological and hydrological integrity).	Particular role in securing habitat for migratory species. In UK, development of sites will be allowed only in the rarest circumstances, and any development will need to be offset by habitat compensation.
Special Protection Area	'Bird sanctuaries' identified by the EC Directive on the Conservation of Wild Birds (79/409/EEC) requires member states to safeguard the habitats of migratory birds and certain particularly threatened birds.	EU + member state governments.	Site protection and management as SSSIs (see below).	With SAC network, forms Natura 2000
Special Area of Conservation	The EC Habitats Directive (92/43/EEC) (Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora) requires member states to compile a list of areas containing the habitat types and species listed in the	EU + member state governments	Site protection and management as SSSIs.	With SPA network, forms Natura 2000

	Directive. These areas are to be protected for the purpose of conserving Europe's rarest flora and fauna species and habitat types, and may be designated both on land and at sea.			

National

Title	Purpose	Competent Authority	Approach	Comments
National Nature Reserves (Nature Reserves in Northern Ireland)	Designated under Sections 16 to 29 of the National Parks and Access to the Countryside Act 1949, NNRs are areas which are among the best examples of a particular habitat. NNRs are of national importance and all are SSSIs. They are designated and, in many cases, owned and managed by the statutory authority (for example Natural England), or managed under agreement with the owner.	Natural England, Scottish Natural Heritage, Countryside Council for Wales, Northern Ireland Environment Agency	Active management in order to maintain special nature conservation interest.	
Site of Special Scientific Interest (Area of Special Scientific Interest in Northern Ireland)	Under the Wildlife and Countryside Act 1981 (amended 1985) (or Nature Conservation and Amenity Lands (Northern Ireland) Order 1985) the government has a duty to notify as an SSSI any land which in its opinion is of special interest by reason of any of its flora, fauna, geological or physiographical features. The Countryside and Rights of Way Act 2000 strengthened the law giving greater	As above	Prevention of operations likely to damage the nature/ geological/ geomorphological interest. Often, there is agreement/ payment for the landowner/ land manager to help maintain this interest.	Based on rigorous criteria for "special scientific interest." The SSSI series forms a national network of areas ... in which the features of nature, and especially those of greatest value to wildlife conservation, are most highly concentrated or of highest quality.”

	power to the designating body in England and Wales to enter into management agreements, to refuse consent for damaging operations, and to take action where damage is being caused through neglect or inappropriate management.			
Area of Outstanding Natural Beauty	An AONB is designated for its landscape and scenic beauty. In relation to importance for landscape and scenic beauty, it is considered equivalent to National Parks.	Designation by Natural England/ Countryside Council for Wales. Local partnerships are led by the local authority/ies , with 'conservation boards' established in two areas (under Countryside and Rights of Way Act 2000).	Strict planning control, additional countryside management. Preparation of Management Plans.	Similar arrangements in Northern Ireland.
National Scenic Area	National Scenic Areas were first identified in the report "Scotland's Scenic Heritage", published by CCS in 1978, covering about one million hectares. As in an AONB, protection is achieved in two ways: through planning control and by encouraging sustainable land management.	Originally designated by the former Countryside Commission for Scotland, they have subsequently been reviewed and reinforced by Scottish Natural Heritage.	Planning control, encouragement of sustainable land management; management strategies are proposed.	Not intended to be representative of the full range of Scotland's landscapes, but to be examples of the types of natural beauty associated with Scotland.
Heritage Coast	Designated in spatial plans, in order to promote land management leading to conservation of natural beauty and,	Local authorities in England and Wales.	Aims to protect and promote sustainable land management (especially	

	where appropriate, improved access.		visitor management) on the undeveloped coastline.	
National Park	Relatively wild land, mainly in private ownership, with dedicated National Park Authorities carrying a range of planning and management powers. In England and Wales they are responsible for conserving and enhancing the natural beauty, wildlife and cultural heritage of the Park and improving opportunities for public understanding and enjoyment of the Park. If there is a conflict between these two purposes, greater weight is given to conservation than recreation. The National Parks (Scotland) Act 2000 sets out the four aims of National Parks in Scotland: • To conserve and enhance the natural and cultural heritage; • To promote the sustainable use of the natural resources of the area; • To promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public; and • To promote sustainable social and economic development of the communities of the area.	Designated by Natural England/ Scottish Natural Heritage (and, potentially, Northern Ireland Environment Service). Managed/ planned by National Park Authorities.	Strict planning control; exemplary land management. Must take into account socio-economic considerations, e.g. for housing/ jobs of local population, and for social inclusion of population outside the national park.	Legislation has led to selection of areas based on 'their natural beauty' and 'the opportunities they afford for open air recreation, having regard to their position in relation to centres of population'. The way in which the legislative criteria were applied were reviewed by the Countryside Agency prior to the designation of lowland National Parks (New Forest, South Downs), querying: appropriate size to achieve purposes (minimum = 600 sq. km.?); interpretation of natural beauty/ relative wildness, and acceptable percentage of lesser quality land within a NP; minimum requisite percentage of open access land to meet the recreation objective; position in relation to centres of population.

Local and non-governmental

Title	Purpose	Competent Authority	Approach	Comments
Local Landscape and Nature/ Geological Designations	Additional protection for sites considered to be of local importance. Many different local names (except for 'geological', where Regionally Important Geological Sites have a higher degree of standardisation).	Local authorities (may be involvement of local wildlife trusts and local RIGS groups) .	Varies. Supplementary designation may be used as a consideration in determining planning applications, or to direct countryside management activities.	Government policy is somewhat lukewarm to local landscape designations and appears to prefer 'landscape objectives' approach, and also advises local authorities to protect ecological assets in the wider countryside to improve connectivity.
Local Nature Reserve	A statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities. LNRs are of local, but not necessarily national, importance.	To establish a LNR the declaring local authority must have a legal interest in the land concerned, and the land must lie within the area which the declaring authority controls.	Improved management and may be given protection against development.	Although LNRs are almost always owned by local authorities, management is often undertaken by local wildlife trusts. They also often have good public access and facilities.