

Protected Landscapes – sleeping giants of English biodiversity

An RSPB study reported here, calls for a renaissance to ensure that England's National Parks and AONBs become a dominant feature of England's system for wildlife delivery.

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England's National Parks and Areas of Outstanding Natural Beauty (AONBs) together making up the Protected Landscapes 'family'.¹ They are obviously outstandingly rich in their landscape qualities, but in this study we establish their parallel biodiversity riches. There has been no recent or systematic review of the role of these area in England's system for biodiversity conservation. In this article we report some work to characterise this significance, and assess the combined delivery effect of this system. We then explore just how far a 'pro-biodiversity' behaviour and approach seems to have got in our National Parks and AONBs, almost 60 years since legislation first created them.

Vital statistics – but no national intelligence system

45 individual Protected Landscapes make up 24% of England's land surface, with a markedly southern and northern distribution, their vital characteristics are more lowland than upland², more farmland than semi-natural³, with almost as much woodland and forest cover as other semi-natural habitats. Heavily grazing-dependant for their special values, livestock systems are central to their future.

Vital statistics such as these begin to set the stage, but in the face of an evidence-based approaches to government and governance - no national intelligence system exists for these cherished landscapes. This article only begins the task.

Table 1. Protected Landscapes in England – their number and area.

| | Number | Part of total | Area (km2) | Part of total |
|----------------|--------|---------------|------------|---------------|
| National Parks | 9 | 20% | 10504 | 34% |
| AONBs | 36 | 80% | 20433 | 66% |
| Total | 45 | 100% | 30937 | 100% |

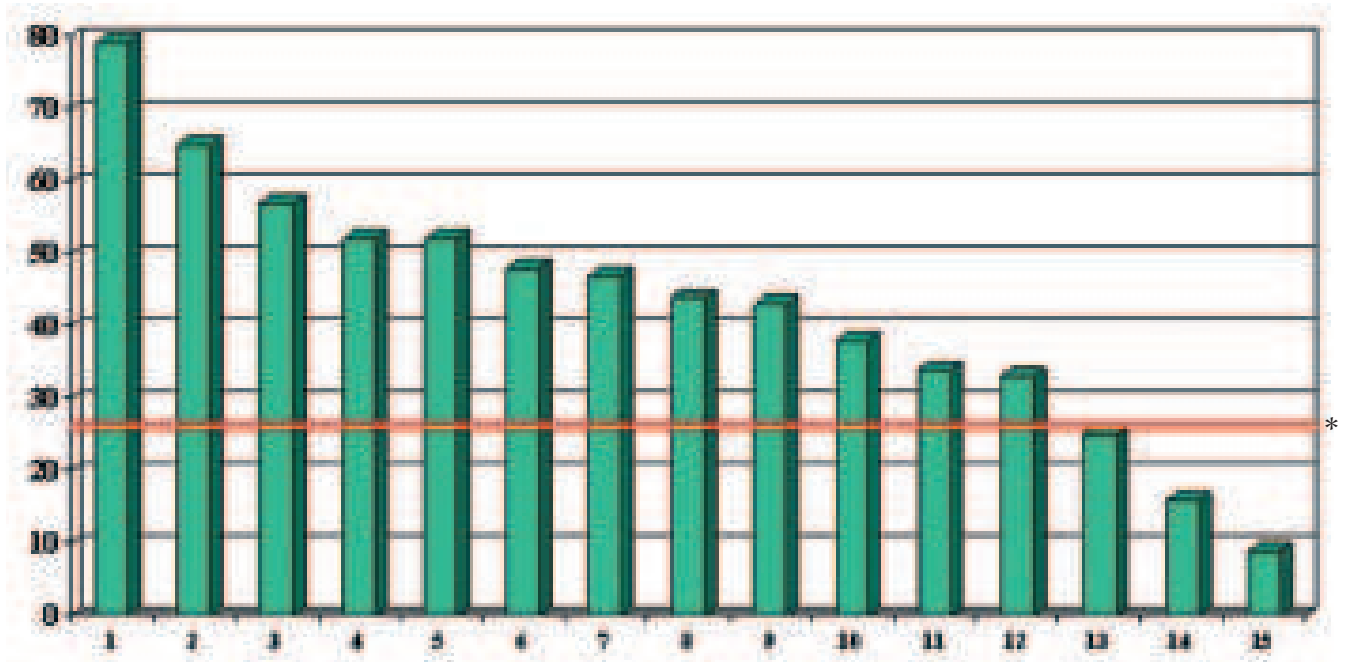
Note, in 2008, the creation of new (10th) National Park, the South Downs is expected, this will subsume two existing AONBs. <http://www.countryside.gov.uk/LAR/Landscape/DL/index.asp>

Parts of the England resource – some giant variables for biodiversity

Occupying a territory bigger than the combined areas of our ten biggest cities⁴, many of the key attributes that define their importance for biodiversity are found

in proportions approaching double or more than their pro-rata share of the England resource. Figure 1 sets out some of these: note for instance that by area, more than half (52% by area) of all England's SSSIs are found in these Protected Landscapes, almost equally divided between the National Parks (27%) and the AONBs (26%). With the RSPBs own estate biased towards these areas, what part of the National Trusts land, or other institutional owners estates, would we find focussed in this territory? The case is clear – these places are giants. And what proportion of our carbon-rich soils are located here?

Figure 1. **The Protected Landscapes – their percentage share of some key variables for England's biodiversity.**



Key:

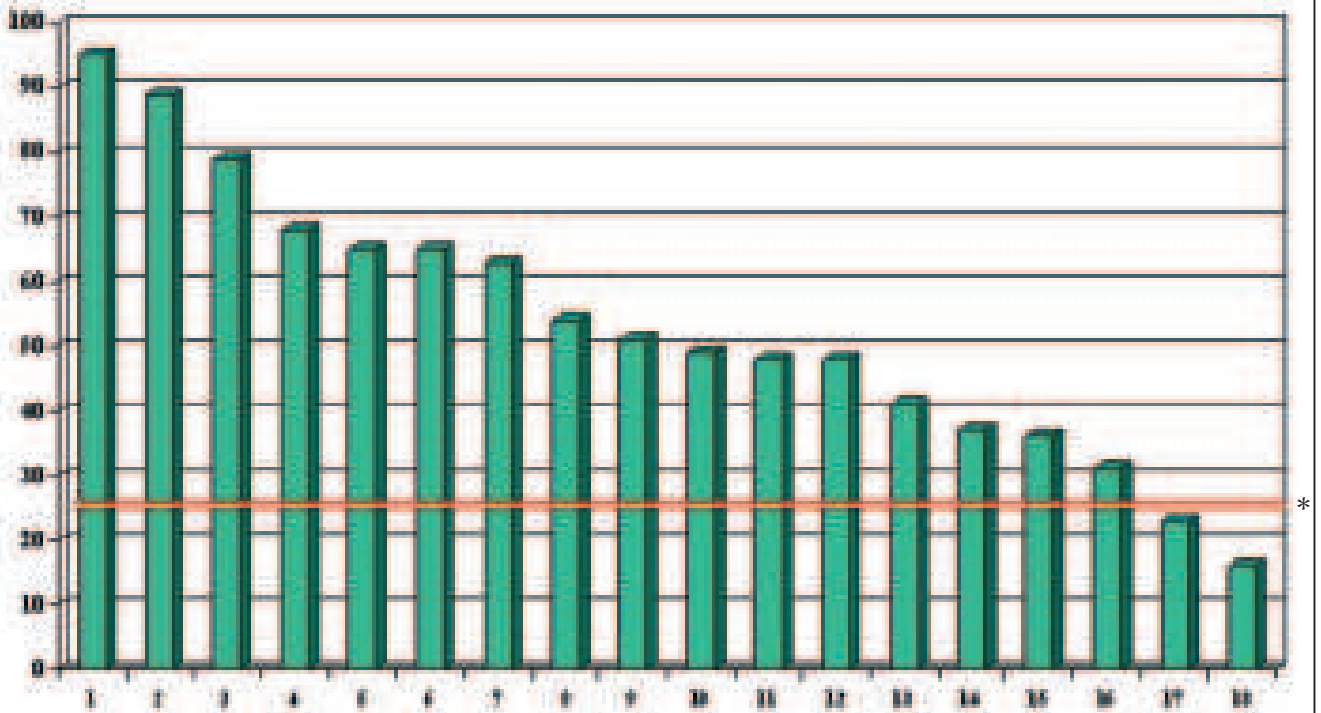
1. Common land, 2. Important Bird Areas, 3. Less Favoured Areas, 4. SACs, 5. SSSIs, 6. SPAs, 7. England Woodland Grant Scheme; 8. RSPB nature reserves, 9. National Nature Reserves, 10. Forestry Commission National Inventory of woods greater than 2Ha, 11. Woodland Grant Scheme, 12. MOD estate, 13. RAMSAR, 14. Local Nature Reserves, 15. FC owned.

*The horizontal bar is the 24% share of England's land surface that the Protected Landscapes cover. See note 26 for data sources.

The giant habitat cake

The case gets even stronger as we explore where England's semi-natural habitats fall. Against a typology of 18 habitats (Figure 2) just two are found in a proportion less than the pro-rata 24% of England's resource, while 11 of the 18 types have an area twice or more greater than that share. If we want successful upland calcareous grassland conservation, we should do it in the Protected Landscapes. For a whole set of habitats, at least half their resource is found in the Parks and the AONBs. The share of the habitat cake is big!

Figure 2. Protected Landscapes – their share of England’s habitats.

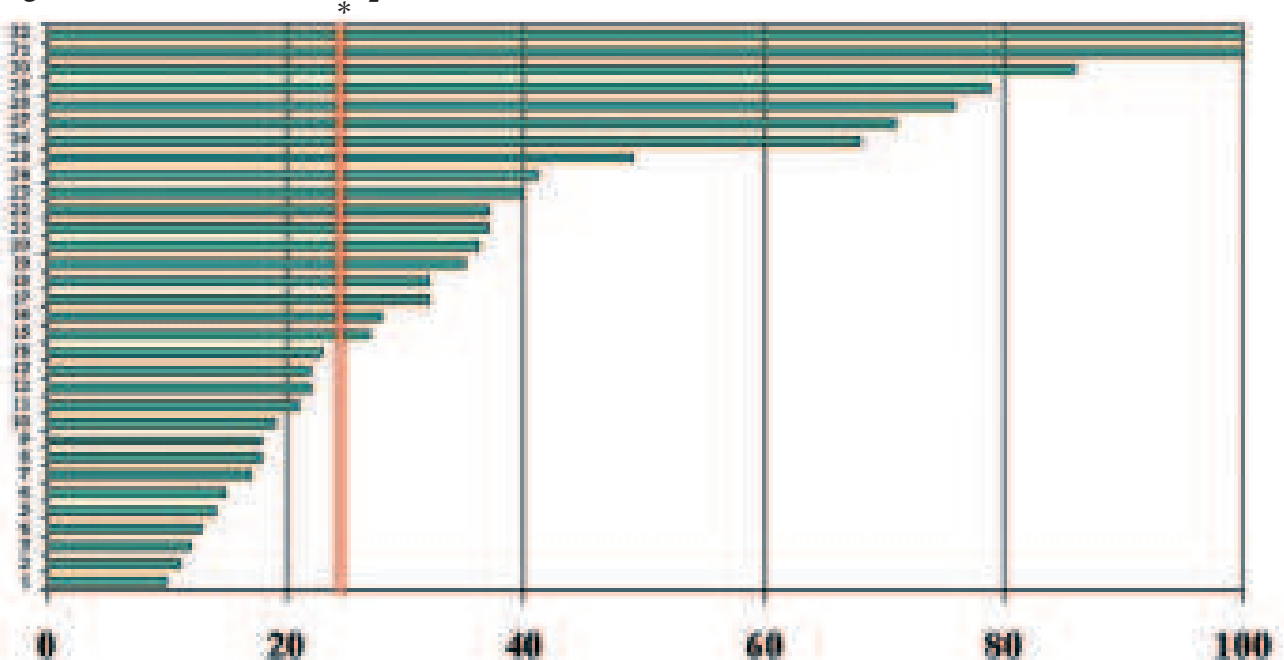


Key:

1. Upland calcareous grassland, 2. Upland heath, 3. Blanket Bog, 4. Upland hay meadows, 5. Fens,
6. Lowland beech & yew woodland, 7. Lowland dry acid grassland, 8. Upland oak wood,
9. Lowland heath, 10. Lowland calc grassland, 11. Lowland mixed deciduous woodland,
12. Upland mixed ashwood, 13. Purple moor rush pastures, 14. Reedbeds,
15. Wet woodland, 16. Lowland meadows, 17. Lowland raised bog, 18. Coastal & Floodplain grazing marsh.

*The horizontal bar is the 24% share of England’s land surface that the Protected Landscapes cover. See note 27 for data sources.

Figure 3. Proportion of ‘Red’ and ‘Amber’ Birds of Conservation Concern records found in England’s Protected Landscapes.



*The Figure shows the proportion (%) of all records for each BoCC species found in BBS records (see notes 5 & 6).

Birds of Conservation Concern

Many birds provide a further test of protected landscapes as central to England's system for conserving biodiversity. Species conservation priorities are described in the Birds of Conservation Concern⁵ (BoCC) approach. Figure 3 presents records of the red or amber listed BoCC species recorded in BBS⁶ records as found in the Protected Landscapes. It may be no surprise that the black grouse only finds its home in these places, but perhaps less obvious will be that three-quarters or more of the curlew records are located here, along with a whole set of other species who find much more than that 24% pro-rata share in these places. If the National Park and AONB slice of the bird BoCC cake is a large one, just how big would the slice be for plants or bugs of equivalent status?

Aim - bird conservation. Target - National Parks and AONBs

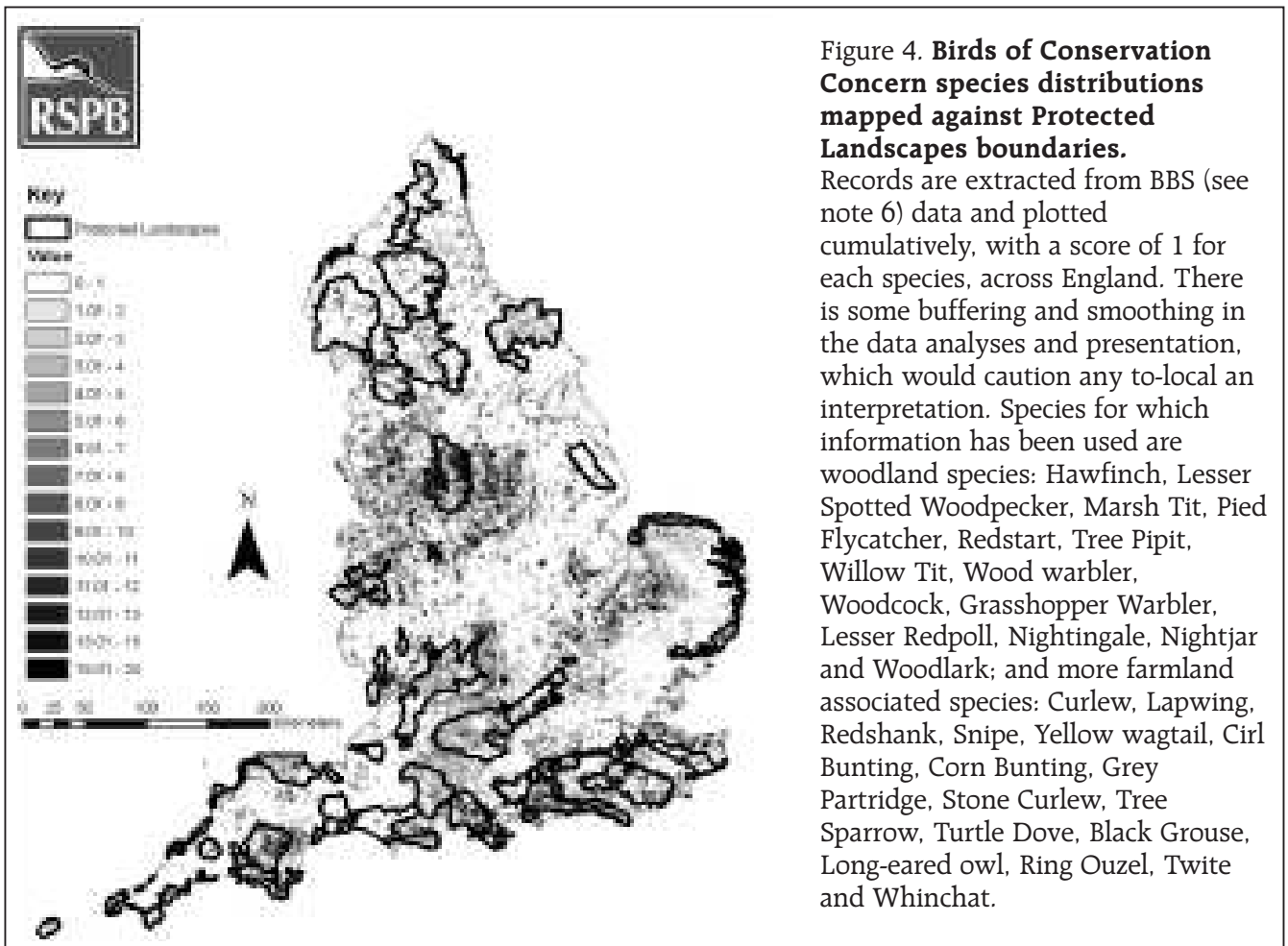
As conservation intelligence systems are refined as a prerequisite to effective delivery, the Protected Landscapes come into target, at least in this example for wild birds. The RSPB and partners in 'The Bird Conservation Targeting Project'⁷ provide a system to focus on important sites for scarce and declining farmland and woodland birds. In Figure 4 we plot the distribution of 30 priority bird species (see legend for detail) and overlay Protected Landscapes boundaries. North and particularly in the south there is a powerful alignment, but less so for middle and eastern England. We have repeated the exercise for various species bundles with both woodland and then more farmland associated groupings displaying similar patterns of alignment. Clearly the midlands and the arable east are cold spots for Protected Landscapes themselves. Getting our bird conservation geography right then - for many (but not all) species (and not in all places) - the Protected Landscapes are crucial.

Oxymoron challenged

If the case is made then that the Protected Landscapes are a clear and dominant part of an agenda for biodiversity conservation goals in England, just how good a job is being made of the delivery challenge? Using two well established measures: protected site 'favourable condition' and bird population trends based on indices derived from a national monitoring scheme, we can get some sense of performance in the Parks and the AONBs.

The condition of nationally important wildlife sites

'Favourable condition', an approach codifying, measuring, and directing the state of England's nationally important wildlife sites (the SSSIs) is the focus of an "enormous and ongoing effort to restore these precious places back to health..."⁸ Embedded since 1998 in Governments Public Service Agreements (PSAs) this approach provides high level publicly accountable goals for its agencies and others. In its current form the PSA⁹ target for SSSIs is 'bringing into favourable condition 95% of all SSSIs by 2010'. Natural England uses five categories¹⁰ to assess the condition of SSSIs: favourable, unfavourable recovering, unfavourable no change,



unfavourable declining, and destroyed/partially destroyed. In Figure 5 we present the results of an analysis of SSSI land in target condition (the first two categories above) and land not in target condition (the last three categories above). On this headline measure, it is hard to see any difference in performance in the Protected Landscapes against England averages.

SSSI Favourable Condition

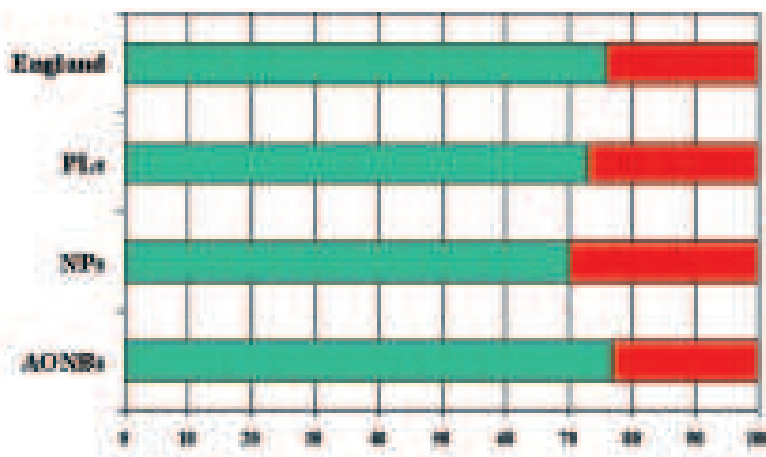
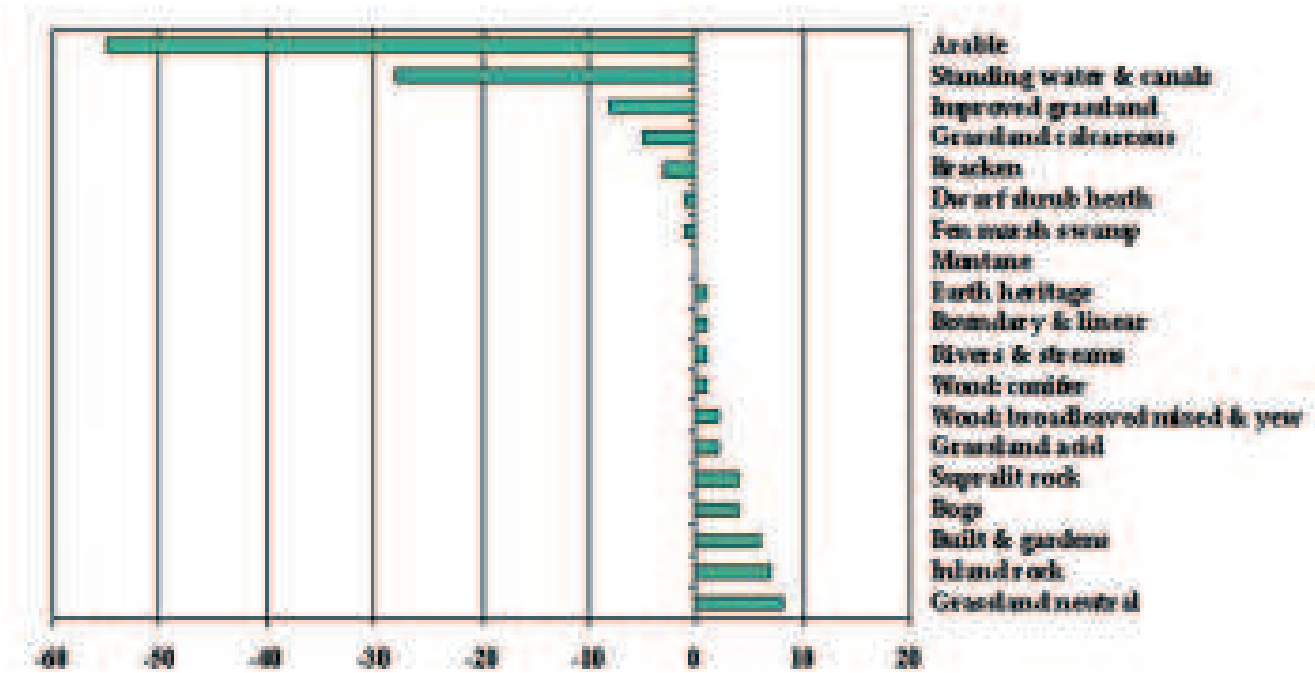


Figure 5. 'Favourable condition' of SSSIs, by area, in the Protected Landscapes against the England average. English Nature SSSI unit data with Broad BAP habitat data attached, supplied April 2006; Natural England SSSI Unit (England-wide), Downloaded May 07 from http://www.english-nature.org.uk/pubs/gis/gis_register.asp.

It is also possible to disaggregate the headline figures by broad habitat types and Figure 6 presents the difference between the areas in target condition, in the Protected Landscapes versus that across England. Apart from two types (arable and standing water & canals) for every other habitat type the difference in condition is small and in every case showing less than 10% variation from the England wide measure.

Figure 6. SSSI favourable condition by broad habitat type as variation against the England average



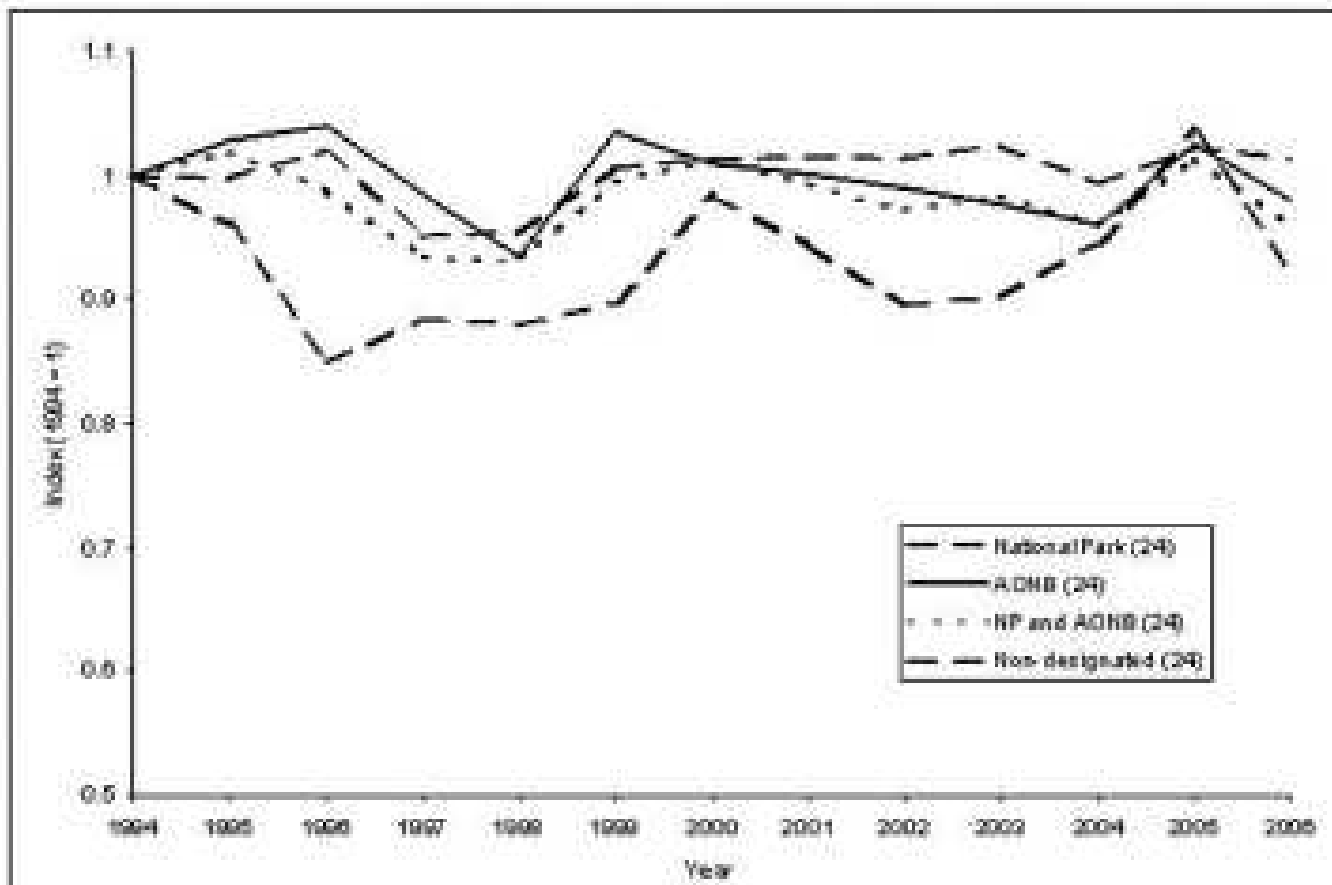
English Nature SSSI unit data with Broad BAP habitat data attached, supplied April 2006; Natural England SSSI Unit (England-wide), Downloaded May 07 from http://www.english-nature.org.uk/pubs/gis/gis_register.asp.

Do bird populations buck the trend?

The BTO/JNCC/RSPB Breeding Bird Survey (BBS)⁶ is a national project aimed at keeping track of changes in the breeding populations of widespread bird species in the UK. Well established, the BBS involves over 1,700 participants who now survey more than 2000 sites across the UK, enabling us to monitor the population changes of over 100 bird species. In Figure 7 we present trend information from BBS, only including species where there is sufficient information, and in this case for the largest bundle of species (24) where we can robustly separate out the Parks and the AONBs. For the last decade or so, there is little difference in trends, at an England scale, in or out of the Protected Landscapes.

Although not presented here, if we bundle the information for farmland species only, or woodland species only, the pattern is broadly similar. This BBS information provides a rich source of potential analysis, and could for instance generate other measures of bird utility (e.g. abundance) rather than just trends, or for more detail say a comparison of woodland species trends north and south. We should also be cautious about over-interpretation, but on our analyses so far these trends do not suggest the Protected Landscapes buck the national trends.

Figure 7. **Breeding bird trends, in and out, of the Protected Landscapes**



Trends have been produced using a standard BBS (see note 6) modelling approach. BBS sites were assigned into a Protected Landscape if 50% or more of the site fell in the Landscape area, and the analyses only included species where information was available for at least 30 BBS squares. In this 'all species' indicator the 23 species included in the analysis are: Blackbird, Bluetit, Carrion Crow, Chaffinch, Cuckoo, Curlew, Dunnock, Goldfinch, Great Tit, Jackdaw, Lapwing, Linnets, Mistle Thrush, Magpie, Meadow Pipit, Pied Wagtail, Robin, Skylark, Starling, Swallow, Song Thrush, Woodpigeon, Willow Warbler.

Giants and sleeping?

The *giants* and *sleeping* strapline has some justification then. At an England level the Protected Landscapes place is central to achieving the countries biodiversity conservation goals, but like all giants we need to be careful how he or she gets woken. A nuanced analysis will need to get beyond the National Parks and the AONBs as fit for purpose institutions, and also to ask how their policy and pay masters, Defra and Natural England, know and respond to this *giantism*? How do other agents of government, institutional land owners like the Forestry Commission, interest groups, and of course the private interests of farmers and landowners, play their part? In commenting on the places, is performance much more a function of the strengths and weaknesses of the England *system* for biodiversity conservation?

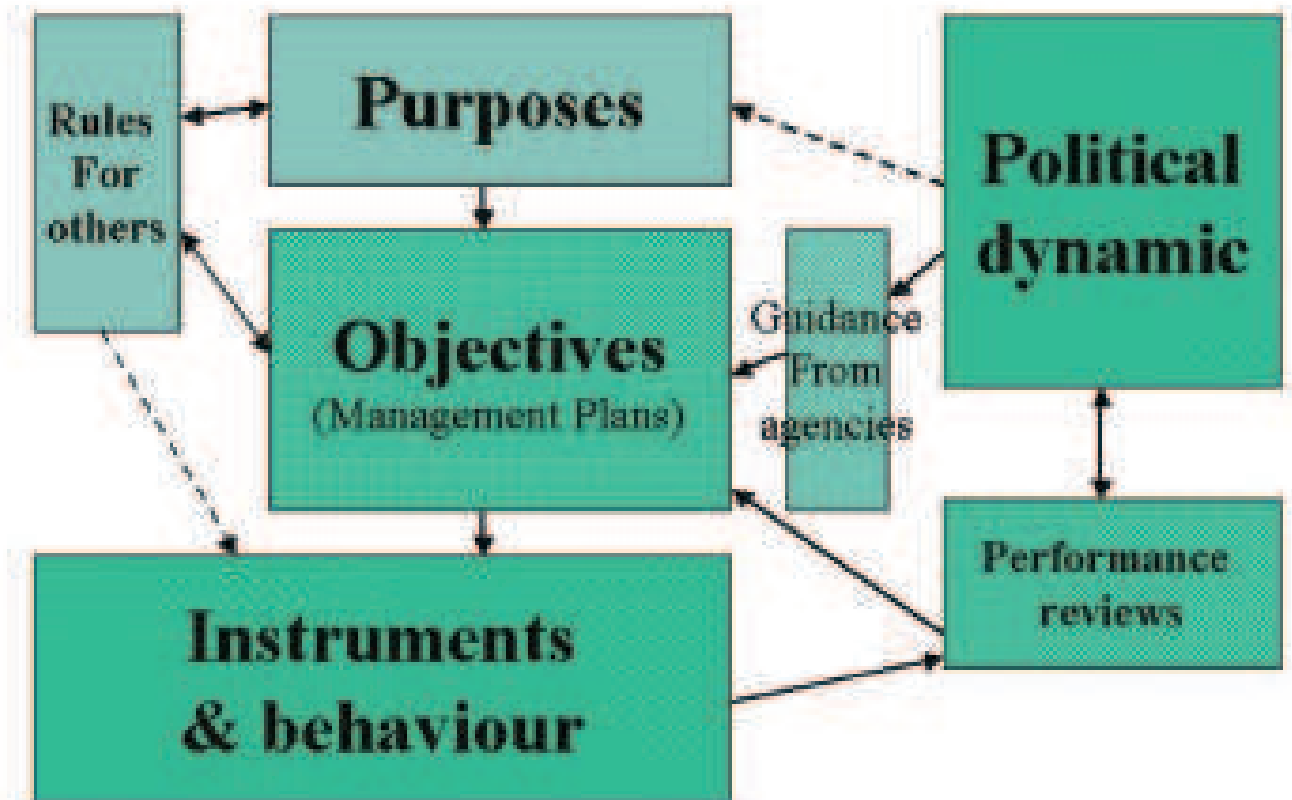
Protected landscapes – a mandate for biodiversity?

With their origins in the post war settlement that produced the National Health Service both National Parks and AONBs root back to the 1949 National Parks and Access to the Countryside Act. Almost 60 years of development then, but what are

the institutions themselves charged with doing and how does this relate to biodiversity? How are they best located in policy, strategy and delivery terms? In Figure 8 we set out the main influences on the strength of this mandate to operate for biodiversity.

Figure 8. **Biodiversity in the context of the dynamics of England's Protected Landscapes.**
The darker the shading – the more dynamic the context.

The mandate to operate for biodiversity.....



Purpose

The 'purpose' question has particular meaning in this context, for the Protected Landscapes 'purpose' or purposes, are the statutory starting point for this mandate. The 1949 Act, and subsequent Acts and Orders, have all reinforced these core definitions of purpose. The first purpose of the National Park's designation is: *"to conserve and enhance the natural beauty, wildlife and cultural heritage of their areas."* The statutory purpose of AONBs is: *"to conserve and enhance the natural beauty of the area."* 'Natural beauty' is further defined by statute to include wildlife, physiographic features, as well as landscape and scenery. In the case of conflicts with other purposes, conservation takes precedence. In both cases, the purpose is strong for biodiversity.

Rules for others

A general duty is also placed on all relevant authorities¹¹, to have regard to these purposes when coming to decisions or carrying out their activities relating to or affecting land within National Parks. Relevant authorities are expected to be able

to demonstrate that they have fulfilled this duty. Similarly, relevant authorities must have regard to the purpose of conserving and enhancing an AONB when exercising or performing any function that will affect land in an AONB¹².

Management Plans

The orthodoxy that every decent institution needs its management plan is firmly embedded in Parks and AONBs processes. Statute¹³ and guidance^{14 15} make it clear that these plans are intended to guide both the institutions themselves in carrying out all their functions and all other bodies and individuals who have an interest in the management of the areas. The central importance of these Plans is stressed for instance by Defra in its most recent review (2002) of National Parks¹⁶ where it notes that: *“the National Park Management Plan should be given renewed importance in government policy advice”*.

It is also clear that these are multi-objective institutions, but biodiversity gets a clear name check amongst topics for the Plans, thus for the Parks this includes *“wildlife/biodiversity (habitats & species) informed by Natural Area profiles and national, regional and local biodiversity action plans and targets, including targets for SSSI condition”*¹⁵. Using a scorecard approach, in 2007 we examined 43 of the 45 Protected Landscape's Plans for their clarity of purpose and commitment to delivery on biodiversity conservation. Using twelve categories of questions, with weighted scores for each, we searched for example for specific actions for birds and biodiversity, including targets, through to recognition of conflicts, and a sense of sufficiency to deliver. Assigning scores to four classes from high to low, we found 5 Plans in the highest class (19 points +), 14 in the next class (14-18 points), 13 in the next (9-13 points), and 11 in the lowest class (<9 points). While each Protected Landscape is different (including in its biodiversity challenges), and we have across the set a range of circumstances probably as wide as rural England can provide, the centrality of Management Plans in contemporary approaches to purpose, function and development of these places is powerful. Across the piece then, how these Plans describe and provide for the biodiversity giant, seems at best a very varied geometry.

Political dynamic

The operating context for the Parks and AONBs is set by interactions with and between central government, its agencies various, key stakeholders and an important understanding of the Protected Landscapes as independent institutions close to local government. More precisely their governing bodies, the National Parks Authorities (NPAs) and the Joint Advisory Committees (JACs)¹⁷ of the AONBs, are best described as hybrid, place based, parts of England's local government architecture. While central government (via Defra) provides the financial settlements for the Parks (£44m in 2007/08)¹⁸ and via Natural England ditto for the AONBs (estimated as £14m in 2006/07)¹⁹ decision-making and delivery is in the hands of the NPAs and JACs. Less obvious than annual financial settlements, but more clearly on a national environmental program radar, a simple

indicative estimate of agri-environment spend in National Parks and AONBs of £107m in 2007 is 38% of the total £279m spent in England²⁰. Staff, budgets, estates, partnerships and collaborations, visions and ambitions, and the instruments of delivery, norms, attitudes and behaviors, are all place based.

Mandate strong but visibility low?

Just how visible is biodiversity in this set of influences? Starting with the more obvious policy end of the Governments system for biodiversity, bizarrely given its giant nature, phrases like *'just about visible'* sum up this presence in the biodiversity strategy for England.²¹ The Governments new natural environment PSA delivery agreement⁹ just about notices the Parks but is silent on AONBs, while in Defra's 'Conserving Biodiversity – the UK Approach'²² the Protected Landscapes are really invisible. With a still new Natural England it remains hard to locate this key agencies overall approach to biodiversity in the Protected Landscapes, though a recent NE Board paper²³ may hint at a tone to come: *"Natural England believes that protected landscapes play a key role in the conservation, enhancement and delivery of the sustainable use and management of England's natural environment; exemplifying and demonstrating best practice."*

Orchestrating the biodiversity system – where's the conductor?

Any review of action for biodiversity in our Protected Landscapes will note many examples of successful and innovative activity. We should celebrate this. This paper though looks across the set, at where the system for biodiversity conservation has got. Is the simple sleeping giants characterisation of these places much more a sense of the limits of our current system for getting biodiversity delivery done? What theory of improvement can we suggest?

If the Parks and AONBs have long escaped a '1949 landscape plus access' view²⁴ of their role, are they really championing a fit-for-the-challenge biodiversity cause? In a system sense, who 'sponsors' an improvement approach? Is biodiversity action faced with a simple lack of institutional capacity to translate strategies from the design stage to the delivery or implementation stage? Or is the quest now to move on from questions of strategy – the broad direction of travel, to operations and activity – where more and better collaboration will achieve better biodiversity services? Will we get the political ambition allied to professional excellence the biodiversity case deserves? Do we have an approach that recruits not loses²⁵ those who can most help delivery, the land owners, farmers and woodland operators? These are big questions of the English system for doing biodiversity, both inside the Protected Landscapes and elsewhere, but the giant nature of the opportunity demands a new search for answers.

A pro-biodiversity renaissance?

Iconic scenery, ecosystem services, rural communities and their welfare, education, and in this case their wildlife - a giant slice of the England biodiversity

cake. Additional tiers of administrative and delivery resources in these places suggest they should be at the forefront of brokering solutions to tough environmental challenges. The biodiversity indicators, if they are to improve, should improve here first. New insights and energy, political leadership at twin national and local levels, information, engagement and persuasion, and heroic collaborations between state, agency, third sector and the private interests of the land based businesses, are all part of the potential. Based on this study, we have to raise our expectations for England's biodiversity in these special places.

Taking the system view, across certain parts at least, biodiversity is barely visible. Across the individual Parks and AONBs, at least in our analysis of their Management Plans, attention to biodiversity is variable. Across the set, singly as National Parks or as AONBs or together, biodiversity information systems may be poorly developed. We may need to look again at our understandings and misunderstandings of the role of these special places for biodiversity. Strangely, given the significance we have set out, the central narrative championing the Protected Landscapes for their biodiversity conservation remains largely unwritten. Climate change, globalisation and agricultural reform provide massive forces for change, but so much can be gained for England's biodiversity if this giant wakes. Time for a renaissance?

References and notes

1. For a starting point on England's Protected Landscapes go to www.countryside.gov.uk/LAR/Landscape/DL/index.asp. A third member of this family – the 'Heritage Coasts' (HC) – has become almost invisible in contemporary England, and they are excluded from this study. They do not receive the same statutory protection as the other two designations, with HC status conferring no new statutory powers or obligations. Their purposes, excepting a focus on the environmental health of inshore waters are very close to those of National Parks and AONBs. Overall, 89% of the total HC area lies in these two areas. See: LUC 2006. Review and Evaluation of Heritage Coasts in England. Report to the Countryside Agency.
2. In an analysis we assigned Protected Landscapes as upland if >50% of their area fell into 'less favoured' and 'severely disadvantaged' designations. On a second measure using those areas over 200m in altitude, we found a similar division.
3. As a simple measure we have taken the SSSI area as the area of semi-natural habitat (5625 km²), the area of woodland as that recorded on the Forestry Commission's register of woodlands greater than 2ha (4040 km²). As proportions of the total Protected Landscape area these are 18 and 13% respectively, leaving the remaining 21,272 km² as farmland. There are of course overlaps and conditions to make on these estimates, some woodland falls into the protected site series (the SSSIs), there is an unknown area of woodlands less than 2 ha in size, and of course not all of the remainder is farmland (some will be built up for instance).
4. The top 10 largest cities in England are: London, Birmingham, Sheffield, Leeds, Liverpool, Bristol, Manchester, Hull, Leicester and Stoke. Their combined area is: 2556 km² (source: www.lovelytown.co.uk/populations/townsTable2.htm)
5. In the Birds of Conservation Concern approach the UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. http://www.rspb.org.uk/wildlife/birdguide/status_explained

6. The Breeding Bird Survey (BBS) monitors terrestrial birds throughout the UK to provide information that underpins the conservation of species and habitats. The BBS is organised by the BTO on behalf of BTO, JNCC and RSPB. Find more at: <http://www.bto.org/bbs>
7. The Bird Conservation Targeting Project is supported by a partnership between: the British Trust for Ornithology (BTO), the Centre for Environmental Data and Recording (CEDaR), the Countryside Council for Wales (CCW), the Department of Agriculture and Rural Development (DARD), the Environment and Heritage Service (EHS), Forestry Commission England (FCE), Forestry Commission Wales (FCW), Forest Service (FS), Natural England (NE) and the Royal Society for the Protection of Birds (RSPB). Find more information at: <http://www.rspb.org.uk/ourwork/conservation/projects/targeting/index.asp>
8. English Nature (2006) Martin Doughty, Chair Designate of Natural England, in the foreword to: 'Target 2010. The Condition of England's Sites of Special Scientific Interest in 2005'.
9. Public Service Agreement (PSA) 28 (Oct 2007). Secure a healthy natural environment for today and the future. <http://search.treasury.gov.uk/> See page 3, in English Nature 2006, note 8 above.
11. 'Relevant Authorities' are: any minister of the Crown, any public body, any statutory undertaker, and any person holding public office.
12. s85 CROW Act 2000
13. The Environment Act 1995 (s66 (1)) requires National Park Authorities (NPAs) to prepare and publish National Park Management Plans.
14. Countryside Agency (2001). Areas of Outstanding Natural Beauty Management Plans – A Guide (CA 23) and Countryside Agency (2006) Guidance for the review of AONB Management Plans.
15. Countryside Agency (2005). National Park Management Plans – Guidance.
16. Defra (2002). Review of the English National Park Authorities.
16. Para 4.29 in reference 15
17. A small number of the more substantial AONBs have elected to adopt, and central government has agreed, another 'Conservation Board' structure.
18. Defra website: National Park Authorities: Funding, at <http://www.defra.gov.uk/wildlife-countryside/issues/landscap/authorities/funding.htm>
19. Personal communication, Mike Taylor, Chief Executive of the Association of AONBs (AAONBs).
20. This estimate uses recent participation data for agri-environment schemes in the Protected Landscapes across England. It assumes these areas receive the average amount of funding, which in the case of HLS might not be true. The major assumption here is that this is indicative of the likely orders of magnitude at least.
21. Defra (2002). Working with the grain of nature – a biodiversity strategy for England.
22. Defra (Oct 2007). Conserving Biodiversity - the UK approach.
23. NE (December 2007). Board Paper 'Natural England's Draft Policy on Landscape. NEB PU08 05.
24. Phillips A. (2007). National Parks in the 21st Century – Time to Face Reality. Paper to the National Park Societies Conference 2007, Snowdonia, Wales.
25. Robins M and G Williams (2005). From Pizzas to Corncrakes – capturing better rural delivery. *ECOS* 26 (2)

26. Data sources:

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Natural England. Registered Common Land (England). Version date 08 September 2005.
Defra. Less Favoured Areas (England). Version date 29 April 2004.

27. Data sources

Natural England Draft Habitat Blanket Bog inventory for England
Natural England Draft Coastal and Floodplain Grazing Marsh Habitat Inventory for England (excluding Isles of Scilly)
Natural England Draft Fen Habitat Inventory for England (excluding Isles of Scilly) version 1.2
Natural England Draft lowland beech and yew woodland priority Habitat Inventory for England
Natural England Draft Lowland Calcareous grassland priority habitat inventory
Natural England Draft Lowland Dry Acid Grassland priority habitat inventory
Natural England Draft Lowland heathland priority inventory for England
Natural England Draft lowland mixed deciduous woodland priority Habitat Inventory for England
Natural England Draft Lowland Meadows priority habitat inventory for England v1.2
Natural England Draft Lowland Raised Bog Habitat Inventory for England (excluding Isles of Scilly) Version 1.2
Natural England Draft Purple Moor Grass and Rush Pastures priority habitat for England inventory v1.2
Natural England Draft Reedbed Habitat Inventory for England (excluding Isles of Scilly) version 1.2
Natural England Draft Upland Calcareous Grassland Habitat Inventory for England
Natural England Draft Upland Hay Meadow priority habitat inventory
Natural England Draft Upland Heathland Inventory for England
Natural England Draft upland mixed ashwoods priority Habitat Inventory for England
Natural England Draft upland oakwoods priority Habitat Inventory for England
Natural England Draft wet woodlands priority Habitat Inventory for England

Acknowledgements

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